Saskatchewan
Parks and
Renewable
Resources

Saskatchewan Game Management 1984-85

SASKATCHEWAN GAME MANAGEMENT

1984 - 1985

Saskatchewan Parks and
Renewable Resources
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Population Management Section
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AUGUST, 1985

ABSTRACT

HUNTING LICENCE SALES AND GAME HARVEST ESTIMATES
1984 vs 1983 and Ten Year Average

	Licence Sales			Harvest		
	1983*	1984*	1974-83 Average	1983	1984	1974-83 Average
1. **Game Birds**						
Sask. Resident	47,157	40,102	54,610			
Canadian Resident	2,978	2,125	3,700			
Non-Resident	3,741	3,277	4,080			
TOTAL	53,876	45,504	62,390			
Ducks				326,000	183,000	474,000
Geese				213,000	162,000	163,000
Sandhill Crane				3,000	3,100	3,800
Sharp-tailed Grouse				59,000	54,000	88,000
Hungarian Partridge				61,000	60,000	63,000
Ruffed Grouse				13,500	13,000	57,000
Spruce Grouse				4,000	4,300	8,900
Pheasant **				15,900	12,200	11,800
GAME BIRD TOTAL				695,400	491,600	869,500
2. **Big Game**						
White-tailed Deer	55,600	55,536		33,574	38,026	
Moose	10,073	9,904		2,113	3,223	
Elk	4,081	4,482		555	1,051	
Mule Deer	7,209	12,085		6,231	10,680	
Antelope	2,411	2,717		2,010	1,985	
Bear	4,375	4,899		1,071	1,778	
Woodland Caribou	152	182		27	23	
Big Game Archery						
White-tailed Deer	1,411	1,534		220	341	
Moose	29	41		2	0	
Mule Deer	775	804		256	270	
Antelope	248	298		55	46	
Muzzleloading						
White-tailed Deer	575	684		197	453	
BIG GAME TOTAL	86,939	92,995		46,311	57,876	

GROSS REVENUE FROM LICENCE SALES

	1982	1983	1984	1984 vs 1983 % Change
Game Birds	562,444	994,570	834,970	-16%
Big Game	1,554,000	2,338,275	2,592,640	+10.9%
TOTAL	2,116,444	3,332,845	3,427,610	+2.8%

* final (June 1) sales figures

** no pheasant licence required in 1983 or 1984

EXECUTIVE SUMMARY

Game Birds

Licence sales totalled 45,504, down 15 per cent from 1983. Poor duck, sharp-tail and ruffed grouse hunting combined with the onset of an early winter are factors primarily responsible for the reduction in licence sales. The 1984 total game bird harvest of 491,600 is 43 per cent below the 1974-83 average of 869,500 birds.

Waterfowl hunting regulations in 1984 were unchanged from the previous five years. Active waterfowl hunters totalled only 32,000 in 1984, 35 per cent below the 1973-83 year average.

The **duck** harvest of 183,000, 77 per cent of which were **mallards** was down 44 per cent from the 326,000 reported in 1983. The 1984 mallard reproduction index of 1.63 immature per adult was below average (2.05). May pond counts were 41 per cent above average but mallard breeding numbers were estimated at 1.33 million, down 5 per cent from 1984 and 37 per cent below average. In response to low duck numbers, especially for mallards and pintails the 1985 duck bag limit has been reduced to 4 birds per day and the opening of duck season delayed to September 11 in southern Saskatchewan. The objective of these regulatory changes is to reduce the overall mallard harvest by 25 per cent and hopefully send a few more hens back to the breeding grounds in 1986.

The 1984 **goose** harvest fell 24 per cent to 162,200 birds but equalled the 10 year average. **White-fronted geese** accounted for 25% of total harvest and **Canada geese** 53 per cent. Spring surveys showed Canada geese breeding in Saskatchewan at or near 1984 levels and production in most Arctic areas is predicted to be good. Predictions are good for the 1985 goose seasons and bag limits remain the same. Seasons in the south will generally open one week later than in 1984.

The 1984 **sharp-tailed** harvest decreased 8 per cent to 54,000 and was 39 per cent below average. Reproduction failed in the grasslands in 1984 with two adults harvested for every juvenile bird. Provincially, the 1984 reproductive index was .97 juveniles per adult in the harvest. 1985 spring breeding ground surveys showed a 27% decline from 1984. 1985 habitat conditions continue to be poor with the drought continuing throughout the grasslands. In response to generally record low numbers of sharptails the 1985 bag limit has been dropped to 3 birds per day throughout the province. A one week season delay has also been implemented in the parkland zones.

Almost 60,000 **Hungarian Partridge** were harvested in 1984 which is only 8 per cent below the 1972-83 average. The reproductive index from last fall's harvest was 2.67 juveniles per adult, down 12 per cent from average. Spring surveys of breeding hungarian partridge in abandoned farmsteads showed an eleven per cent drop from 1984 due primarily to the harsh winter in farmland and parkland zones. Populations generally remained stable in the grasslands where the winter was less severe. Bag limits have been reduced in some farmland and all parkland and forest fringe zones. Prospects for hunting partridge remain good in the grassland zones.

About 5,000 active **pheasant** hunters harvested 12,180 cock pheasants in 1984 which is near the eight year average. 13 per cent of the reported harvest occurred in the late season compared to 25 per cent in 1983. 1984 reproduction was apparently poor due to drought conditions and lack of residual grass and shrub cover. 1985 spring surveys along good pheasant drainages show a reduction of one third in spring populations. Only two survey routes showed increases from 1984. Harsh winter conditions likely contributed to a reduced population this spring. In response to generally low populations the 1985 bag limit has been dropped to 3 cocks per day. The traditional late season has been delayed to December 2nd so as not to overlap with white-tailed deer season.

The 1984 **Ruffed Grouse** harvest dropped to 13,000 birds which is the lowest level since 1973. Ruffed grouse populations cycle in about a ten year period and indications are that the bird is starting to recover in numbers. 1985 spring surveys of drumming males indicate a 32 per cent increase from 1984. Bag limits and season dates are similar to 1984. Ruffed grouse hunting should be better than 1984 in most areas.

Big Game

Licence sales totalled 92,995 representing a 7 per cent increase from that of 1983. Big game licence revenue increased 11 per cent over the previous year largely as a result of an increase in antlerless mule deer licence sales. Licence sales increased for all species except white-tailed deer which remained stable. Primitive weapons licence sales continued to increase in 1984.

The 1984 harvest of **white-tailed deer** increased 18% per cent to approximately 39,000. Harvest was higher in all ecological divisions except the Forest and Farmland which were slightly lower than in 1983. White-tailed deer populations in many parts of the province were exposed to one of the most severe winters on record prompting the implementation of a supplementary deer feeding program. Populations in the Grasslands and western Farmlands appear to have recovered based on the high harvest in 1984. White-tail populations in the extreme southeast continue to be highly productive. At present, white-tailed deer populations in the Commercial Forest are considered underutilized.

The harvest of **moose** from northern zones increased dramatically in 1984 to 3223 from 2113 in 1983. A moose season was not held in Moose Mountain Park, Cypress Hills Park or the Thickwood Hills in 1984. Moose populations appear to have improved in many areas in 1984 although low populations persist in the central and eastern portions of the province.

Mule deer populations continued to grow at a rapid rate over much of the primary mule deer range despite liberal antlerless quotas in 1984. High hunter success and a harvest of 10,950 deer characterized the 1984 mule deer seasons. Management efforts are aimed at stabilizing populations by focusing the harvest on the antlerless segment of the population. Range deterioration, excessive depredation and potential population crashes are of concern in several wildlife management zones.

The estimated population of 11,000 **antelope** and the harvest of 2,031 animals in 1984 are similar to last year. The kid:doe ratio of 0.63 is improved over that of 1984 (0.56) in spite of widespread drought conditions throughout much of the antelope range during the summer and fall of 1984.

The 1984 harvest of **elk** during the regular season increased 85 per cent to 484 animals. The special season harvest approximated 405 elk. Surveys of northern elk populations were not conducted in 1984-85; however, surveys conducted in the Cypress Hills indicated populations are expanding.

The 1985 big game hunting season is highlighted by the establishment of record high antlerless mule deer quotas throughout most of the primary mule deer range as a measure aimed at stabilizing populations and preventing excessive depredation of agricultural produce.

1985 white-tailed deer seasons are marked by elimination of the second white-tailed deer licence and the expansion of "bucks only" hunting to WMZ 38. The program of game preserves and road corridor game preserves has been expanded to protect critically low moose populations in central and northeastern Saskatchewan. The Woody Lake Game Preserve was abolished and replaced with road corridor game preserves and access road closures for the 1985 hunting season. Two free bear tags will again be offered wth each valid big game licence in 1985 in an attempt to increase moose calf survival and the harvest of bears in Zones 58-61. Elk harvest quotas have been increased in the Porcupine Provincial Forest and in the east and center blocks of the Cypress Hills in response to expanding populations in these areas. Antelope quotas have been increased in Wildlife Management Zones where populations permit. An evaluation of woodland caribou and their relationship to impinging human activities has been initiated in an effort to increase the information available to wildlife managers on this species in Saskatchewan.

ACKNOWLEDGEMENTS

The Wildlife Branch took the responsibility for producing this report. Ross Melinchuk, Bob Stewart and Ted Weins co-authored the report. Hugh Hunt reviewed the manuscript. Correen Nagy and Brenda Perra typed it. Many other members of the branch, along with staff of the Administration Branch, made large contributions, particularly supervisory and regional Wildlife staff. Gord Roberts and Bruce Darrach labored long and hard to implement major revisions tô the analysis and reporting of the Big Game Hunter Questionnaire data for 1984. Fred Beek, using SAS, capably analysed much of the survey and checkstation data.

The Department is indebted to the hunters of Saskatchewan for providing, through the Hunter Surveys, the hunting information which forms the backbone of this report.

The significant contribution of SPRR Operations staff to game management in Saskatchewan is also recognized. They collect many of the biological samples used to determine the age and sex compositions of the kill, and are instrumental in conducting the spring game bird population surveys and assisting on big game aerial surveys. The Conservation Officers in the districts also frequently serve as our eyes and ears, reporting qualitative information pertinent to wildlife.

PREFACE

This report succeeds the **"Report of Hunter and Game Population Surveys"** published annually by this Department from 1976 to 1980, and commonly referred to as the **"Hunter Survey Report"** after the pre-1976 annual reports. It is intended to provide more comprehensive documentation of annual game management. To this end, there is much more discussion and analysis of that data than in the past, and events are traced from one set of yearly hunting regulations to the next.

In 1984, a major revision of the analysis and reporting procedure of the Big Game Hunter Questionnaire data was undertaken. Significant editing revisions were introduced to reduce reporting error, duplication and bias inherent in earlier versions of this questionnaire.

Unlike the 1983-84 report, references to the old game management zones have been omitted and all information is gauged to the new wildlife management zones introduced in 1984.

TABLE OF CONTENTS

Page

Abstract i
Acknowledgements vi
Preface vii
Table of Contents vii
List of Tables............................... ix
List of Figures............................. xiv
List of Appendices xvi

GAME BIRDS

GENERAL

HUNTING REGULATIONS...................1
DATA COLLECTION TECHNIQUES 1
1984 LICENCE SALES 2

MIGRATORY BIRDS

INTRODUCTION...............................4
1984 HUNTING ACTIVITY......................4
DUCKS 6
GEESE...14
SANDHILL CRANES.........................20
OTHER WATERFOWL REGULATIONS 22

UPLAND GAME BIRDS

1984 HUNTING ACTIVITY....................23
SHARP-TAILED GROUSE 28
HUNGARIAN PARTRIDGE 42
PHEASANT 52
RUFFED GROUSE 62
SPRUCE GROUSE.............................74
PTARMIGAN 77

BIG GAME

GENERAL

1984 HUNTING REGULATIONS 78
DATA COLLECTION TECHNIQUES 78

WHITE-TAILED DEER 81
MOOSE 116
MULE DEER 142
ELK 158
PRONGHORN ANTELOPE 166
BLACK BEAR 172
WOODLAND CARIBOU 176
ARCHERY HUNTING...........................178

LIST OF TABLES

Page

Table 1 General Measures of Saskatchewan Game Bird Hunting, 1984 vs 1985 and Ten Year Average 3

Table 2 Saskatchewan Waterfowl Hunting Activity, 1973-84 5

Table 3 Saskatchewan Waterfowl Harvest Summary, 1984 8

Table 4 Saskatchewan Duck Harvest and Hunting Pressure by Wildlife Management Zone, 1984 9

Table 5 Saskatchewan Goose Harvest and Hunting Pressure by Wildlife Management Zone, 1984 17

Table 6 Saskatchewan Sandhill Crane Harvest by Wildlife Management Zone, 1984 21

Table 7 Saskatchewan Upland Game Bird Hunting Activity, 1973-84 24

Table 8 Saskatchewan Upland Game Bird Harvest Summary, 1984 25

Table 9 Saskatchewan 1984 Upland Game Bird Hunting Activity Compared by Wildlife Management Division 25

Table 10 Sharp-tailed Grouse Hunting Data for Saskatchewan, 1972-84 29

Table 11 Sharp-tailed Grouse Harvest and Hunting Pressure by Wildlife Management Zone, 1984 30

Table 12 Sharp-tailed Grouse Hunting Data for Saskatchewan by Wildlife Management Divisions, 1984 32

Table 13 Most Important Sharp-tailed Grouse Harvest Areas in Saskatchewan, 1984 and 1983 33

Table 14 Sharp-tailed Grouse Reproduction in Saskatchewan, 1984 vs Historic 37

Table 15 Saskatchewan Sharp-tailed Grouse Breeding Population Surveys, Spring 1985 39

Table 16 Hungarian Partridge Hunting Data for Saskatchewan, 1972-84 44

Table 17 Hungarian Partridge Harvest and Hunting Pressure by Wildlife Management Zone, 1984......................45

Table 18 Hungarian Partridge Hunting Data for Saskatchewan by Wildlife Management Divisions, 1984 47

Table 19 Most Important Hungarian Partridge Harvest Areas in Saskatchewan, 1984 and 1983 48

Table 20 Hungarian Partridge Reproduction in Saskatchewan, 1984 vs Historic 50

Table 21 Hungarian Partridge Breeding Population Survey, Spring 1985 51

Table 22 Pheasant Hunting Data for Saskatchewan, 1976-84 53

Table 23 Saskatchewan Pheasant Harvest and Hunting Pressure by Wildlife Management Zone, 1984 54

Table 24 Important Pheasant Hunting Zones in Saskatchewan, 1984 56

Table 25 Saskatchewan Pheasant Breeding Population Surveys, Spring 1985 59

Table 26 Ruffed Grouse Hunting Data for Saskatchewan, 1972-84 63

Table 27 Ruffed Grouse Harvest and Hunting Pressure by Wildlife Management Zone, 1984.......................64

Table 28 Ruffed Grouse Hunting Data for Saskatchewan by Wildlife Management Divisions, 1984 65

Table 29 Most Important Ruffed Grouse Harvest Areas in Saskatchewan, 1984 and 1983 68

Table 30 Ruffed Grouse Reproduction in Saskatchewan, 1984 vs Recent Past.......................................69

Table 31 Saskatchewan Ruffed Grouse Breeding Population Surveys, Spring 1985 70

Table 32 Saskatchewan Spruce Grouse Harvest and Hunting Pressure by Wildlife Management Zone 1984.................75

Big Game Section

Table 33 Provincial White-tailed Deer Harvest 1979-84 82

Table 34 Grassland Regular Deer Harvest - 1984.................84

Table 35 Farmland Regular Deer Harvest - 1984 85

Table 36 Parkland Regular Deer Harvest - 1984 86

Table 37 Forest Fringe Regular Deer Harvest - 1984..............87

Table 38 Forest Regular Deer Harvest 1984 90

Table 39 Forest Second Licence Deer Harvest - 1984......... 91

Table 40 Provincial White-tailed Deer Harvest Structure 1983-84....................92

Table 41 Sex and Age Structure of White-tailed Deer from Check Stations 1984 93

Table 42 Provincial White-tailed Deer Hunting Pressure 1981-84 96

Table 43 Grassland White-tailed Deer (Archery) Harvest - 1984 97

Table 44 Farmland White-tailed Deer (Archery) Harvest - 1984 98

Table 45 Parkland White-tailed Deer (Archery) Harvest 1984....................99

Table 46 Forest Fringe White-tailed Deer (Archery) Harvest 1984 100

Table 47 Forest 1st and 2nd White-tailed Deer Harvest - 1984 101

Table 48 Grassland White-tailed Deer Muzzleloader Harvest - 1984 102

Table 49 Farmland White-tailed Deer Muzzleloader Harvest 1984....................103

Table 50 Parkland White-tailed Deer Muzzleloader Harvest 1984....................104

Table 51 Forest Fringe White-tailed Deer Muzzleloader Harvest - 1984 105

Table 52 Forest 1st and 2nd White-tailed Deer Licence Harvest 106

Table 53 White-tailed Deer Stratified Random Block Aerial Surveys, 1985 107

Table 54 White-tailed Deer Population Structure - Provincial Sept-Nov 1984....................109

Table 55 White-tailed Deer Population Structure - Grassland Sept-Nov 1984 110

Table 56 White-tailed Deer Population Structure - Farmland Sept-Nov 1984 111

Table 57 White-tailed Deer Population Structure - Parkland Sept-Nov 1984 112

Table 58 White-tailed Deer Population Structure - Forest Sept-Nov 1984 113

Table 59 White-tailed Deer Population Structure - Forest Sept-Nov 1984 114

Table 60 Combined Regular and Special Moose Harvest Data - Provincial - 1984 117

Table 61 Special Draw Moose Harvest Data - Forest 1984 118

Table 62 Regular Moose Harvest Data - Forest Fringe 1984......119

Table 63 Regular Moose Harvest Data - Forest 1984 120

Table 64 Regular Moose Harvest Data - Northern Shield - 1984 121

Table 65 Structure of Moose Harvest for the Northern Provincial Forest Big Game Hunter Questionnaire......124

Table 66 Age Proportions of Adults in Moose Harvest - 1984..................................125

Table 67 Sex and Age Structure of Moose Check Stations Samples - 1984 126

Table 68 Moose Densities in Aerial Transect Survey Block, 1975-84 130

Table 69 1983-85 Moose Population Estimates 131

Table 70 1983-85 Moose Sex and Age Helicopter Observations 133

Table 71 Moose Hunter Questionnaire Harvest Data for Fort a la Corne and Duck Mountain 140

Table 72 Provincial Mule Deer Harvest - 1984 143

Table 73 Regular Mule Deer Harvest, Hunting Success and Pressure - 1985...............................144

Table 74 Antlerless Mule Deer Harvest, Hunting Success and Pressure - 1985 145

Table 75 Year Class Composition of Provincial Antlerless Mule Deer Harvest (Checkstations) 1984 146

Table 76 Sex and Age Structure of Mule Deer from Check Stations 1984 147

Table 77 Archery Mule Deer Harvest Hunting Success and Pressure - 1984 150

Table 78 Mule Deer Population Surveys 1984-85................151

Table 79 Mule Deer Population Structure - Helicopter Observations Nov-Dec 1984 152

Table 80 Mule Deer Population Structure - Province Sept-Nov 1984 154

Table 81 Mule Deer Population Structure - Grassland Sept-Nov 1984 155

Table 82 Regular Season Elk Harvest, Hunting Success and Pressure - Forest - 1984 159

Table 83 Regular Season Elk Harvest, Hunting Success and Pressure by Season - 1984 160

Table 84 Elk Population Structures 1983-85 162

Table 85 Special Season Hunter Questionnaire Elk Harvest Data, 1984 164

Table 86 Provincial Antelope Harvest, Hunting Success and Pressure 1984 167

Table 87 Regular Season Antelope Harvest, Hunting Success and Pressure - 1984 168

Table 88 Archery Season Antelope Harvest, Hunter Success and Pressure - 1984 169

Table 89 Provincial Antelpe Density and Kid:Doe Ratio, 1984-85 170

Table 90 Results of the 1984 Free Bear Licence Questionnaire, Zones 58-61 174

Table 91 Provincial Bear Hunting Success and Pressure - 1984 175

Table 92 Caribou Harvest Hunting Success and Pressure - 1984 177

LIST OF FIGURES

Page

Figure 1. Saskatchewan Duck Hunter Days and Harvest, 1974-84 7

Figure 2. Saskatchewan Duck Harvest Density, 1984 10

Figure 3. Saskatchewan 1984 Mallard Harvest by Weekly Intervals 11

Figure 4. Saskatchewan Goose Hunter Days and Harvest, 1974-1984 16

Figure 5. Saskatchewan Goose Harvest Density, 1984 18

Figure 6. Saskatchewan 1984 Goose Harvest by Weekly Intervals 19

Figure 7. Upland Game Bird Hunters Active in Saskatchewan, 1973-84 26

Figure 8. Upland Game Bird Hunter Days Expended in Saskatchewan, 1973-83. Compared by Game Management Division (Not required for 1985)

Figure 9. Saskatchewan Sharp-tailed Grouse and Hungarian Partridge Harvest, 1973-84 31

Figure 10. Sharp-tailed Grouse Harvest Density,1984 34

Figure 11. Saskatchewan 1984 Sharp-tailed Grouse Harvest by Weekly Intervals 35

Figure 11b. Saskatchewan 1984 Hungarian Partridge Harvest by Weekly Intervals 46

Figure 11c. Ruffed Grouse Harvest by Weekly Periods 1984 67

Figure 11d. Saskatchewan 1984 Spruce Grouse Harvest by Weekly Intervals 76

Figure 12. Saskatchewan Upland Game Bird Fall Age Ratios (Reproduction Index), 1973-84 38

Figure 13. Sharp-tailed Grouse Breeding Population Trends, 1978-85 40

Figure 14. Saskatchewan Hungarian Partridge Harvest Density, 1984 49

Figure 15. Saskatchewan Pheasant Licence Sales, Hunting and Harvest, 1973-84 55

Figure 16. Saskatchewan Pheasant Harvest Density, 1984 57

Figure 17. Saskatchewan 1984 Pheasant Harvest by Weekly Intervals 58

Figure 18. Saskatchewan Pheasant Spring Breeding Population Index, 1973-85 60

Figure 19. Saskatchewan Ruffed Grouse Harvest Density, 1984 66

Figure 20. Saskatchewan Ruffed and Spruce Grouse Harvest, 1973-84 73

Figure 21. Saskatchewan White-tailed Deer Sport Hunter Harvest, Recreation-Days, and Effort 1970-84 83

Figure 22. Age Structure of White-tailed Deer Harvested, South East Saskatchewan 1984 94

Figure 23. Sex and Age Structure Estimates of the White-tailed Deer Population and Harvest 95

Figure 24. Provincial Moose Harvest Statistics 1958-84 122

Figure 25. Moose Transect Population Estimate and Harvest Index Trends 1959-85 123

Figure 26. Provincial Moose Harvest Check Stations - 1984 127

Figure 27. Distribution of Sex and Age of Moose Check Station Sample 128

Figure 28. Impact of Bear Removal on Moose Calf Survival Lobstick Study Area, 1984 132

Figure 29. Systematic Aerial Transect Trend Survey Estimates for Moose, Bronson and Divide Forest Survey Blocks, 1973-85135

Figure 30. Regulated Legal Harvest of Moose in Zone 67 and Zone 68 (Bronson Forest), 1973-84 136

Figure 31. Hunter Days Recreation and Effort/Moose Harvested in Zone 67 and 68 137

Figure 32. Year Class Composition of Provincial Antlerless Mule Deer Harvest.............................. 148

LIST OF APPENDICES

Page

Appendix 1. Saskatchewan 1984 Game Bird Seasons 180

Appendix 2. Saskatchewan 1985 Game Bird Seasons 181

Appendix 3. Recent Saskatchewan Game Bird Hunting Regulations 182

Appendix 4a Saskatchewan Game Management Zones, 1975-83 189

Appendix 4b Saskatchewan Wildlife Management Zones, 1984 190

Appendix 5. 1983 Saskatchewan Game Bird Hunter Survey Questionnaire....................................191

Appendix 6. 1984 Saskatchewan Game Bird Hunter Survey Follow up Letter 195

Appendix 7. Criteria To Be Used To Determine Duck Bag Limits In Saskatchewan During Stabilized Hunting Regulations, 1979-84 196

Appendix 8. Sharp-tailed Grouse Reproduction in Saskatchewan, 1984 197

Appendix 9. Hungarian Partridge Reproduction in Saskatchewan, 1984 198

Appendix 10. Ruffed Grouse Reproduction in Saskatchewan, 1984 199

Appendix 11. 1984-85 Midwinter Waterfowl Survey 200

Appendix 12. Areas of New Wildlife Management Zones 201

Appendix 13. 1984 Saskatchewan Big Game Seasons 202

Appendix 14. 1984 Saskatchewan Big Game Draw Procedures 205

Appendix 15. 1984 Saskatchewan Big Game Hunter Questionnaire....................................211

Appendix 16. 1984 Saskatchewan Co-operative Wildlife Management Study 215

Appendix 17. Wildlife Management Zones - 1984 217

Appendix 18. Regular Mule Deer Harvest, Hunting Success and Pressure by Season, 1984 218

Appendix 19. Antlerless Mule Deer Harvest, Hunting Success and Pressure by Season, 1984 219

Appendix 20. Age Structure of Mule Deer Harvest (Checkstations) in WMZ 9-12, 1984..................... 220

Appendix 21. Age Structure of WMZ 12 Regular Season Mule Deer Harvest (Checkstations) 1984.................. 222

Appendix 22. First Bear Licence Harvest, Hunting Success and Pressure by Season - 1984 223

Appendix 23. Second Bear Licence Harvest, Hunting Success and Pressure by Season, 1984 226

Appendix 24. 1985 Big Game Hunting Season Regulations............ 227

GAME BIRDS

GENERAL

HUNTING REGULATIONS

The 1984 and 1985 game bird hunting regulations are outlined in Appendices 1 and 2, respectively. Season dates and bag limits from the recent past (1975-84) are presented in Appendix 3(a-f). Appendix 4a illustrates the former game management zones, established in 1975 and used until 1983. Appendix 4b illustrates the 76 wildlife management zones used since 1984.

DATA COLLECTION TECHNIQUES

Licence Sales

Licence sales are tabulated by the Revenue Section of Administrative Services Branch of Saskatchewan Parks and Renewable Resources, using returns from licence vendors and Department offices.

1984 Saskatchewan Game Bird Hunter Survey

20,000 of the 47,157 resident game bird hunters from 1983 were randomly selected to receive the 1984 Hunter Survey, using 1983 licence stubs. These hunters were mailed a survey form (Appendix 5) during the second half of September. Hunters returned ten per cent of the surveys by mid November. On November 19, a follow up letter (Appendix 6) and another copy of the questionnaire were mailed to all non-respondents (90% of original mailing). The total response by the February 1, 1985 cut off date for receipt of resident returns was 37.9%. The return rate for the 1983 survey was 39%, for 1982, 43% and for 1981, 48%.

Fifteen hundred Canadian resident bird hunters and fifteen hundred non-resident hunters were also sampled using the 1984 licence stubs. Questionnaires were mailed in December and no second mailing was conducted. The overall response to this single mailing was 37.6% with 39.5% of the non-residents of Canada and 32.9% of Canadian residents responding. Total responses were as follows:

Saskatchewan Residents	7481
Canadian Residents	482
Non Residents	585

The returned questionnaires were edited by the Statistics and Evaluation Section of Communications Branch and keypunched by Administrative Services Branch. Don Fowler, a Saskatoon consultant conducted the computer analysis of the data. Computer printouts were available by March 8, 1985 and were used extensively to write this report.

Wing Collection

1,760 wings were collected from hunter-bagged upland game birds in the fall of 1984 to derive population age-structures, from which reproductive success can be inferred. using special envelopes provided, Conservation Officers collected wings from hunters encountered in the field and enlisted the assistance of wildlife organizations to obtain samples. For the fifth consecutive year, individual and group awards (Champion Chicken Plucker) for the largest species collection provided additional incentive to the officers. Wildlife Branch staff collected wings on an incidental basis.

Experienced Wildlife staff and Kelsey Institute students in Saskatoon aged the wings according to primary feather eruption and wear.

Population Surveys

Upland game bird populations were surveyed between April 15 and May 15, 1985, using established, previously updated, survey methods. Wildlife Branch staff and Conservation Officers conducted the surveys. The data were compiled and analysed by the Wildlife Branch.

1984 LICENCE SALES

Forty thousand Saskatchewan game bird hunting licences were sold to provincial residents in 1984, down 15% from 1983 and well below the 10-year average of 55,000 (Table 1). Poor duck hunting was again responsible for the depressed sales, although poor grouse hunting was also a contributing factor. Licence sales to other Canadians were down 29% and non-residents of Canada down 12%, producing a total of 45,504 licences sold. In 1983 and again in 1984, Saskatchewan residents were not required to purchase a special licence to hunt cock pheasants.

Table 1. General Measures of Saskatchewan Game Bird Hunting, 1984 vs 1983 and Ten Year Average

	Sask. Game Bird Licence Sales				Active Waterfowl Hunters (Ducks and Geese)				Active Upland Game Bird Hunters			
Hunter Category	1982	1983	1984	Ten Year Average	1982	1983	1984	1974-83 Average	1982	1983	1984	1974-83 Average
Sask. Resident	50,179	47,157	40,102	54,610	35,276	36,498	26,955	41,892	24,320	25,627	20,019	—
Canadian Resident	3,719	2,978	2,125	3,700	3,296	2,807	1,892	3,603	1,014	1,139	896	—
Non-Resident (Alien)	4,034	3,741	3,277	4,080	3,876	3,593	3,170	4,023	1,551	1,499	1,418	—
TOTAL	57,932	53,876	45,504	62,390	42,448	42,898	32,017	49,518	26,885	28,265	22,333	32,770

MIGRATORY BIRDS

INTRODUCTION

The Canadian Wildlife Service is primarily responsible for migratory birds, although they are managed in Saskatchewan in consultation with the provincial authority. The Canadian Wildlife Service directly collects much of the prerequisite data. Their migratory game bird hunter survey is overlapped by the Saskatchewan Game Bird Hunter Survey (Appendix 5), the 1984 results of which are reported herein.

The stable 1984 waterfowl hunting season dates and bag limits (Appendix 1) fell within a framework of regulations in effect for six years (Appendix 7).

1984 HUNTING ACTIVITY

Waterfowl hunting is the main component of Saskatchewan game bird hunting. Total waterfowl hunting (hunter days) decreased approximately 23% from 1983 (Table 2). Active hunters totalled only 32,000 in 1984, including 5,060 (16%) non-residents. This total, 35% below the eleven year average of 48,950 active hunters, was held down by poor duck hunting. The 1984 hunters averaged 2.9 days in the field which is slightly above the 10-year average (Table 2) and equivalent to 1983 activity. Harvest per active Saskatchewan resident waterfowl hunter averaged 9.8 birds, while out of province Canadians bagged 11.4 birds and non residents of Canada bagged 19.1 birds. Resident hunters accounted for 73% of total waterfowl days hunted. For the second consecutive year there have been more active goose hunters than duck hunters.

Table 2. Saskatchewan Waterfowl Hunting Activity, 1973-84*

Year	Active Waterfowl Hunters	Waterfowl Hunter Days	Hunter Days/ Active Hunter
1973	43,200	116,700	2.7
1974	47,700	150,000	3.1
1975	56,100	175,500	3.1
1976	58,500	188,600	3.2
1977	57,100	163,300	2.9
1978	52,300	135,400	2.6
1979	51,300	138,300	2.7
1980	48,600	128,200	2.6
1981	38,300	98,100	2.6
1982	42,400	108,200	2.5
1983	42,900	122,900	2.9
1973-1983 Average	48,950	138,650	2.8
1984	32,000	94,100	2.9
% Change			
1984 from 1983	- 25%	- 23%	No change
1984 from Average	- 35%	- 32%	+ 4%

* Note: Waterfowl hunting activity includes both duck and goose hunting.

DUCKS

1984 Hunting Activity and Harvest

Low duck populations in the fall of 1984 continued to suppress duck hunting, in spite of constant, liberal hunting regulations (Appendix 3a). Duck hunting activity and the harvest decreased to an 11-year low (Figure 1). Twenty-three thousand eight hundred (23,800) active duck hunters spent an average of 1.8 days hunting and reported a harvest of 183,000 ducks, 77% (141,000) of which were mallards (Tables 3, 4). The geographic and chronological distribution of the duck harvest are illustrated in Figures 2 and 3, respectively. The 1984 mallard reproduction index was 1.63 immature per adult compared to 2.12 in 1983 and the 1967-83 average of 2.05 (Western Wing Bee data). 37,720 federal Migratory game bird permits were sold in Saskatchewan in 1984 compared to 45,383 in 1983.

1985 Duck Populations and Regulations

Early spring water conditions initially suggested a better year for duck production in 1985. However, an increasingly large portion of wetlands are being negatively affected by agriculture, even if the basins remain intact. The major alteration is elimination of upland and aquatic nesting cover through cultivation, grazing and burning. Duck populations no longer have the explosive growth capability they once had.

Observations during the Canadian Wildlife Service recruitment surveys and the co-operative breeding duck survey conducted by CWS and USFWS indicated the spring season began about one week earlier than average with very warm, dry weather in early April. April 15 to 21 produced below normal temperatures and significant rainfall. Seeding progress was similar to 1984 and well ahead of 1983. Precipitation in the province from September 1, 1984 to May 22, 1985 varied from 21% below normal at Estevan to 85% above at North Battleford.

As a result of precipitation patterns and heavy runoff in some areas May pond counts increased by over 1 million from 1984 (+96%) and were 41% above the 1975-84 average. Over 2.9 million ponds were estimated with five of six southern stratum surveyed showing increases in May pond numbers. Mallard numbers for the six southern stratum are estimated at 1,334,700 which is a decrease of 5% from 1984 and 37% below the 1975-

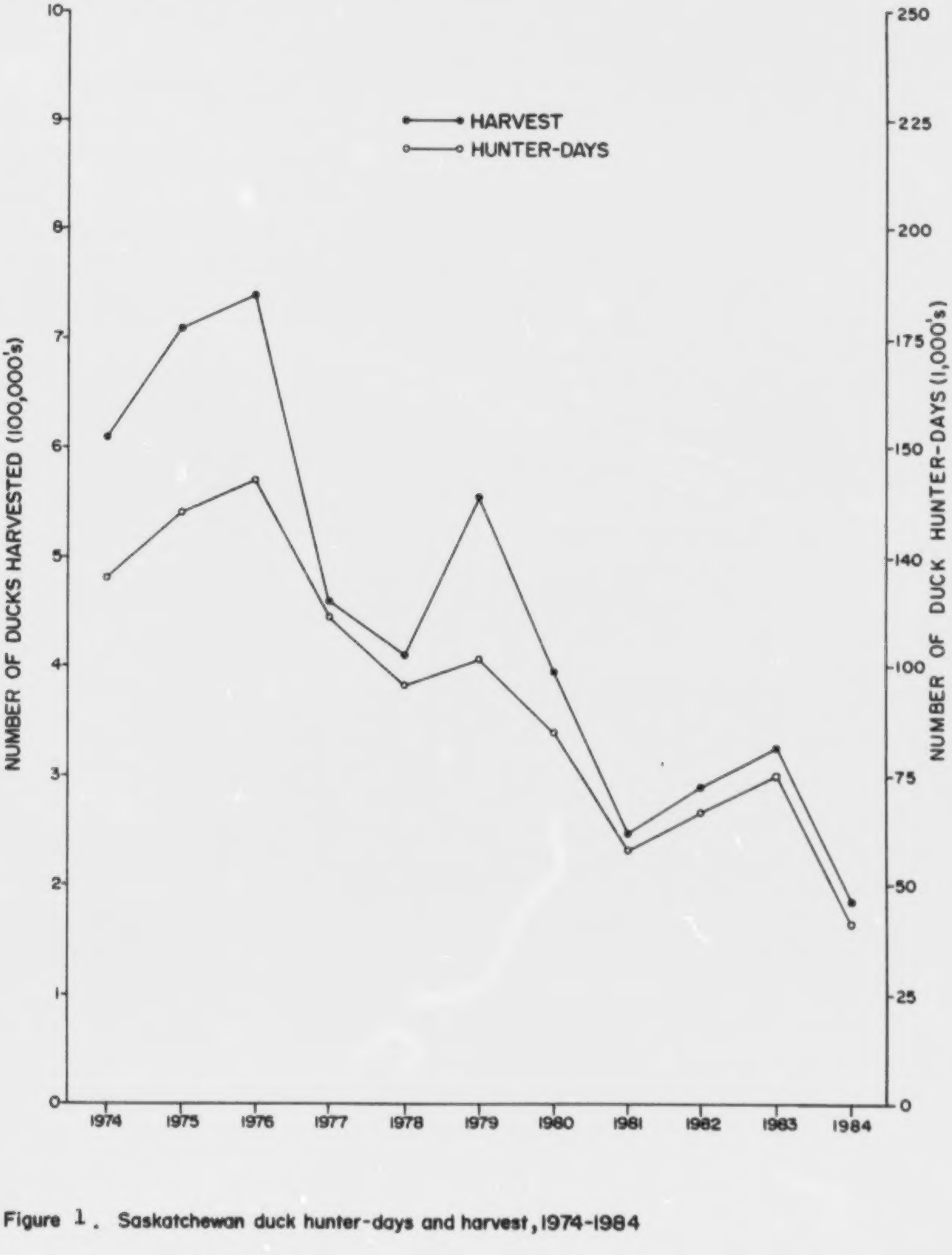


Figure 1. Saskatchewan duck hunter-days and harvest, 1974-1984

Table 3. Saskatchewan Waterfowl Harvest Summary 1984

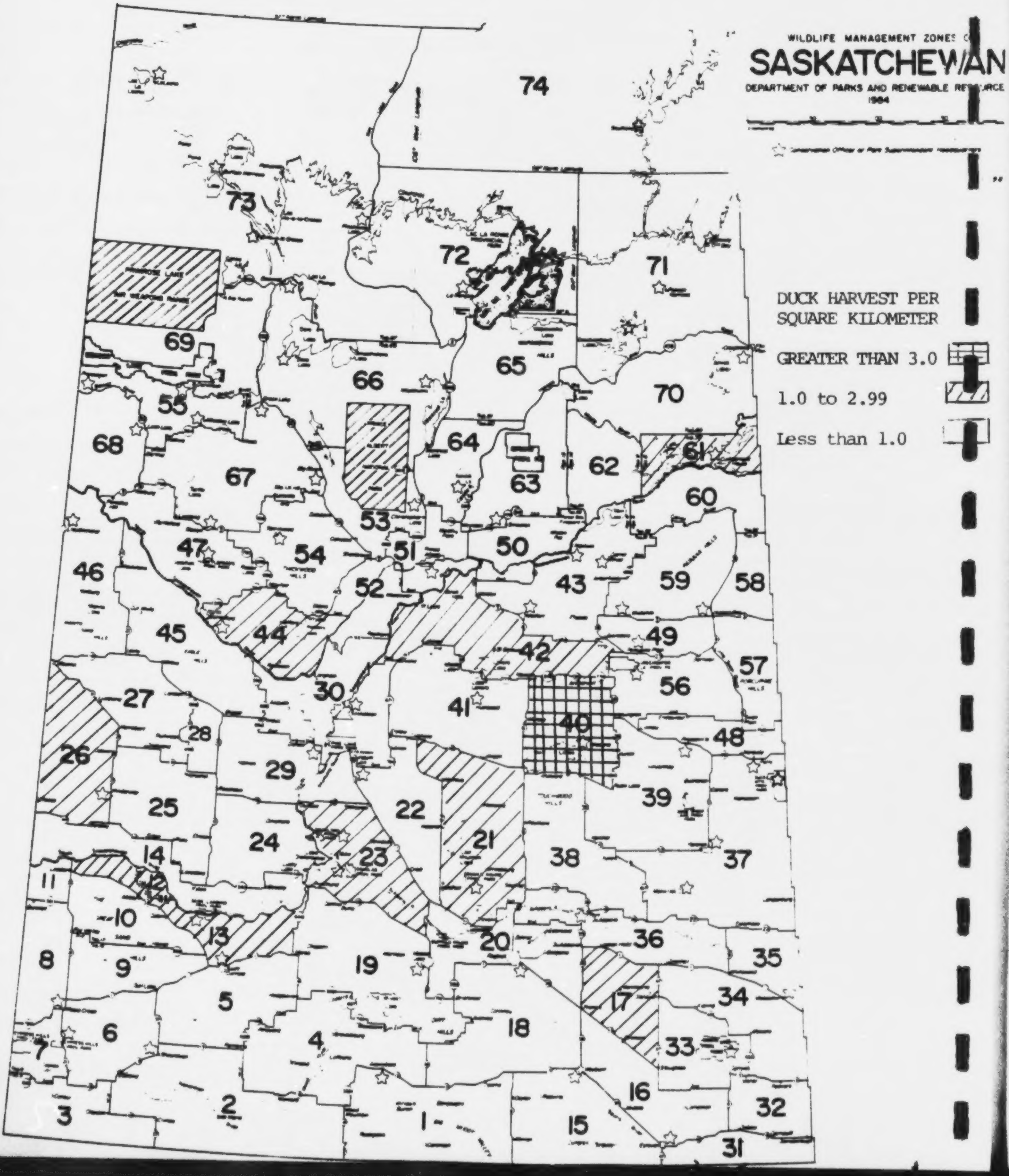
	Sask. Resident		Non-Resident, Cdn.		Non-Resident, Alien		All Hunters	
MALLARD DUCKS	106,037	58.03%	7,726	4.22%	27,001	14.77%	140,764	77.04%
OTHER DUCKS	30,736	16.82%	1,827	0.99%	9,379	5.13%	41,942	22.95%
TOTAL DUCKS	136,773	74.85%	9,553	5.22%	36,380	19.91%	182,706	100.00%
Successful Hunters (% of Active)	15,890	(80.29%)	1,040	(85.05%)	2,548	(91.48%)	19,478	(81.84%)
Active Hunters	19,791		1,222		2,785		23,798	
Kill / Active Hunter	6.9		7.8		13.1		7.7	
Kill / Successful Hunter	8.6		9.2		14.3		9.4	
Days / Active Hunter	1.5		2.1		3.4		1.8	
Days / Successful Hunter	1.9		2.5		3.7		2.2	
Days Hunted	30,059.0		2,597.0		9,531.6		42,187.5	
CANADA GEESE	66,894	41.23%	6,964	4.29%	12,068	7.43%	85,927	52.96%
WHITE-FRONTED GEESE	31,880	19.65%	2,854	1.75%	5,707	3.51%	40,440	24.92%
SNOW GEESE	23,691	14.60%	1,949	1.20%	5,853	3.60%	31,493	19.41%
OTHER GEESE	3,612	2.22%	183	0.11%	565	0.34%	4,360	2.68%
TOTAL GEESE	126,076	77.71%	11,949	7.36%	24,193	14.91%	162,219	100.00%
Successful Hunters (% of Active)	18,218	(80.16%)	1,540	(87.84%)	2,746	(92.74%)	22,504	(82.01%)
Active Hunters	22,726		1,753		2,961		27,439	
Kill / Active Hunter	5.5		6.8		8.2		5.9	
Kill / Successful Hunter	6.9		7.8		8.8		7.2	
Days / Active Hunter	1.7		2.5		3.0		1.9	
Days / Successful Hunter	2.1		2.9		3.2		2.3	
Days Hunted	38,635.9		4,402.2		8,915.7		51,953.8	
WATERFOWL (D+G)	262,849	76.20%	21,502	6.23%	60,574	17.56%	344,925	100.00%
Successful Hunters (% of Active)	23,502	(87.19%)	1,740	(91.95%)	3,119	(98.39%)	28,361	(88.58%)
Active Hunters	26,955		1,892		3,170		32,016	
Kill / Active Hunter	9.8		11.4		19.1		10.8	
Kill / Successful Hunter	11.2		12.4		19.4		12.2	
Days / Active Hunter	2.5		3.7		5.8		2.9	
Days / Successful Hunter	2.9		4.0		5.9		3.3	
Days Hunted	68,694.8		6,999.2		18,447.3		94,141.2	

Table 4. Saskatchewan Duck Harvest and Hunting Pressure by Wildlife Management Zone, 1984

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	1,331	0.73	221	0.160	1.9	713	391
2	540	0.30	207	0.051	1.6	336	180
3	229	0.13	95	0.053	2.3	99	70
4	4,729	2.59	782	0.583	2.5	1,907	1,207
5	3,687	2.02	575	0.618	2.3	1,626	817
6	639	0.35	166	0.152	2.3	274	153
7	97	0.05	63	0.051	1.2	79	38
8	333	0.18	127	0.098	0.9	388	74
9	870	0.48	239	0.253	0.9	947	206
10	1,571	0.86	451	0.443	0.8	2,062	410
11	342	0.19	124	0.347	0.6	578	112
12	372	0.20	203	1.082	0.3	1,288	106
13	4,526	2.48	1,146	1.108	0.9	5,173	1,275
14	1,378	0.76	475	0.247	0.4	3,422	401
GR	20,646	11.32	4,875	0.319	1.1	18,892	5,440
15	1,501	0.82	347	0.223	2.0	741	511
16	2,640	1.45	573	0.498	1.3	2,049	786
17	3,990	2.19	772	1.044	1.8	2,270	978
18	3,102	1.70	673	0.416	2.2	1,425	722
19	4,956	2.72	1,068	0.538	1.9	2,650	1,138
20	2,587	1.42	574	0.467	3.4	762	557
21	12,922	7.08	2,213	1.542	1.7	7,426	3,283
22	1,633	0.90	302	0.345	2.4	691	364
23	9,762	5.35	1,103	1.701	3.0	3,277	1,797
24	2,051	1.12	429	0.425	1.0	2,104	460
25	739	0.41	238	0.127	0.5	1,638	189
26	5,785	3.17	924	1.310	0.9	6,143	1,413
27	4,816	2.64	712	0.980	1.3	3,625	1,114
28	853	0.47	146	0.630	1.7	493	201
29	3,806	2.09	734	0.714	2.0	1,944	912
30	3,439	1.88	908	0.474	2.1	1,628	909
FA	64,582	35.40	11,716	0.711	1.7	38,866	15,334
31	236	0.13	100	0.094	1.7	140	60
32	51	0.03	45	0.018	1.0	52	21
33	1,140	0.62	166	0.294	2.0	560	302
34	579	0.32	245	0.108	1.6	369	165
35	239	0.13	60	0.091	2.4	100	70
36	2,827	1.55	410	0.545	3.5	798	637
37	8,143	4.46	1,026	0.720	3.6	2,249	1,585
38	4,334	2.38	668	0.676	4.0	1,095	869
39	6,885	3.77	935	0.906	2.8	2,501	1,413
40	16,415	9.00	2,030	3.032	2.1	7,972	3,970
41	6,803	3.73	1,057	0.943	2.7	2,542	1,608
42	9,243	5.07	1,325	1.247	2.6	3,585	2,095
43	4,999	2.74	714	0.738	3.1	1,626	964
44	5,611	3.08	820	1.226	2.5	2,215	1,450
45	2,509	1.37	418	0.327	2.2	1,162	496
46	3,124	1.71	474	0.524	2.1	1,512	596
47	3,152	1.73	489	0.551	3.3	944	649
PA	76,288	41.81	10,984	0.775	2.6	29,422	16,947
48	774	0.42	209	0.306	2.4	317	173
49	967	0.53	134	0.404	2.6	373	169
50	249	0.14	34	0.075	2.9	86	44
51	2,399	1.31	335	0.835	3.6	672	470
52	2,401	1.32	370	0.824	4.3	555	425
53	1,804	0.99	259	0.651	2.6	698	355
54	2,683	1.47	377	0.471	2.9	920	545
55	787	0.43	206	0.210	2.2	360	212
FF	12,065	6.61	1,925	0.459	3.0	3,981	2,394
56	1,105	0.61	194	0.234	2.4	464	225
57	50	0.03	30	0.015	3.3	15	10
58	219	0.12	50	0.098	1.8	119	65
59	109	0.06	90	0.019	1.2	91	30
60	222	0.12	30	0.058	5.9	38	38
61	3,574	1.96	151	1.176	3.1	1,139	841
62	85	0.05	16	0.023	1.6	52	43
63	129	0.07	30	0.023	3.3	40	30
64	91	0.05	36	0.026	3.5	26	11
65	0	0.00	0	0.000	0.0	0	0
66	176	0.10	44	0.016	5.1	35	35
67	598	0.33	125	0.069	1.8	335	182
68	378	0.21	40	0.091	6.3	60	60
69	328	0.18	44	0.042	4.8	69	55
70	477	0.26	39	0.056	3.1	153	145
71	57	0.03	6	0.003	1.4	40	23
72	438	0.24	50	0.024	5.9	75	75
73	746	0.41	70	0.016	5.6	134	134
FO	8,782	4.81	1,042	0.053	3.1	2,883	1,998
74	90	0.05	6	0.002	2.7	34	23
75	0	0.00	0	0.000	0.0	0	0
76	0	0.00	0	0.000	0.0	0	0
NS	90	0.05	6	0.000	2.7	34	23
>>>>>>>>>>>>>>>>>>>>> T O T A L >>>>>>>>>>>>>>>>>>>>>	182,454	100.00	30,547	0.097	1.9	94,078	42,135

* Hunter Days are based on all Waterfowl Hunting.
* The Total Active Hunter value is NOT the true Provincial Total.

Figure 2. Saskatchewan Duck Harvest Density 1984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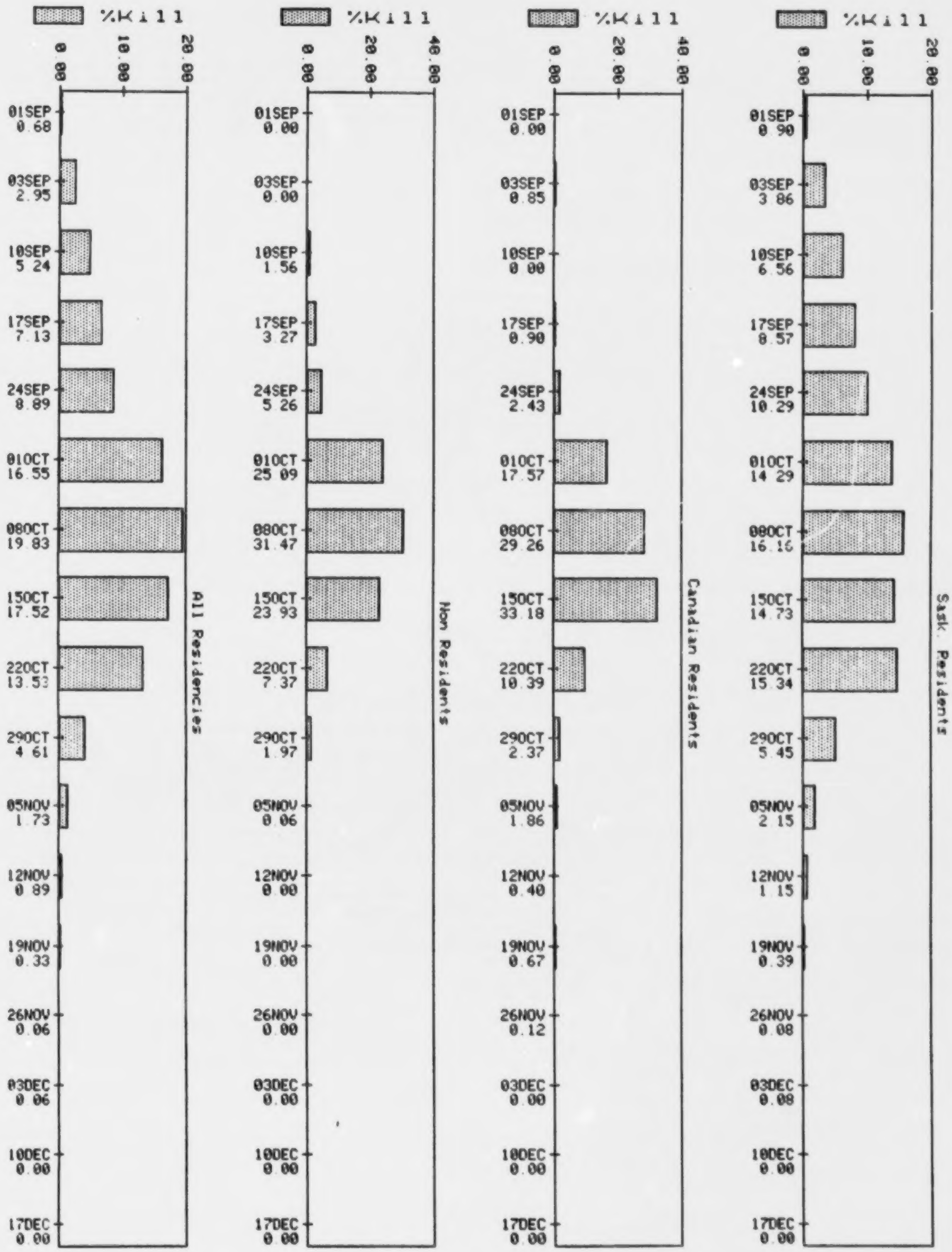


Fig. 3. Saskatchewan 1984 Mallard harvest by weekly intervals.

84 average (CWS/USFWS data). Pintail numbers were estimated at 521,700, down 4% from 1984 and 57% below average. Total southern Saskatchewan duck numbers were estimated at 6.16 million which is 15% above 1984 but still 23% below average.

The Continental mallard breeding population is estimated at 5.475 million which is down 8% from 1984 and 35% below the 1955-84 average (USFWS data). Pintails continent wide are estimated at 2.935 million down 20% from 1984 and 50% below the thirty year average.

Habitat conditions continue as the major limiting factor to waterfowl production. The margins of 76 per cent and the basins of 33 per cent of more than 5,000 potential ponds identified during 1985 surveys in Prairie Canada were disturbed by agricultural activities, primarily cultivation, filling, mowing and burning (CWS data). Brood rearing habitat is more abundant and of higher quality than in 1984.

The annual July Waterfowl Production Survey flown in southern Saskatchewan by USFWS personnel indicated the number of 1985 July ponds (907,100) was up 39% from 1984 and equal to the 1975-84 average (908,600). An abnormal loss of 69% of ponds occurred between May and July. Areas south of a line between Lloydminster and Estevan are suffering drought conditions and the Missouri Coteau remains very dry.

The duck brood index of 97.1 (97,100) increased 38% from 1984 but was still 13% below the 1975-84 average of 111.5. Average brood size was 5.3 ducklings per brood which is 13% above average (4.7). The combined duck late-nesting index (82.2) was 28% above 1984 but 57% below the ten year average (192.4). The data suggests improved production over 1984 but the fall flight will likely be well below normal numbers.

Consultations regarding 1985 duck hunting regulations were held with Canadian Wildlife Service, the primary waterfowl regulatory authority (Nieman & Weins 1985) on April 26, 1985. The Saskatchewan Migratory Bird Advisory Committee composed of CWS and SPRR members recommended lowering the duck bag limit to 4 birds per day and 8 in possession. Delaying the season opening was also discussed and C.W.S. recommended delaying the season to late September. Due to the potential for severe crop damage the season was delayed only to September 11 for 1985.

After Canada-United States discussions regarding the 1985 waterfowl regulations, Federal authorities decided that the Saskatchewan duck bag limit would be reduced to 4 per day, 8 in possession.

Three main reasons for altering the duck bag limit to four per day were:

a) Mallard and pintail 1985 breeding populations and predicted fall flights are at record lows.

b) Some managers feel that mallard breeding stock can be preserved and enhanced by reducing harvest through hunting regulation manipulation.

c) The North American Waterfowl Management Plan recommends implementing regulations which would achieve a harvest reduction of 25%. A bag limit of 4 per day can be expected to reduce the average duck bag by 21 per cent and a season delay of one week should reduce harvest by about 3 per cent especially on late nesting hens.

The calendar adjustments made to the duck season dates are outlined in Appendix 2. No changes in wildlife management zone openings were made for ducks.

GEESE

1984 Hunting Activity and Harvest

Excellent goose hunting opportunity was available in the fall of 1984 but early winter storms on September 22 and October 15 disappointed the ardent goose hunter by sending the birds south earlier than normal. Most, if not all, of the geese had left the Quill Lakes area by October 20 and on October 28 in the Maple Creek area geese could be heard flying over most of the day and night. Primarily as a result of the inclement weather the 1984 goose harvest fell 24% to 162,200 birds (Figure 4) from the record 213,000 reported in 1983. Canada and lesser snow goose harvest decreased the most (25-30 per cent) while the white-front harvest of 40,000 declined only 6%.

Goose hunting activity out-ranked duck hunting with 27,500 active goose hunters compared to 24,000 duck hunters (Table 3). Goose hunters expended 52,000 hunter days, about 25% less than 1983 activity.

Goose tail fans submitted by hunters in the prairie provinces to the National Species Composition Survey show Arctic goose reproduction to be similar to 1983. The reported species composition of the harvest was Canada geese - 53%; white-fronted geese - 25%; snow geese - 19.4% and others (i.e. Ross' geese) - 2.7% Kill per active hunter was 5.9 geese compared to 6.0 in 1983. Harvest per successful hunter was 7.2 birds compared to 7.3 in 1983.

The geographic and chronological distribution of the goose harvest are portrayed in Figures 5 and 6.

1985 Goose Populations and Regulations

Populations of large Canada geese continue as a success story in agricultural Saskatchewan. The 1985 Wascana goose drive resulted in the banding of 976 Canada geese including 683 juveniles. Eight provincial waterbodies received geese from the drive. In some areas these prairie geese are starting to cause depredation complaints from spring and summer grazing of cereal grains. The Canada Goose breeding population index for southern Saskatchewan was 32.7 (32,700) compared to 33.0 in 1984 but was still 80% above the ten year average.

Winter snowfall conditions were above normal in the Kindersley, Leader and Wilkie areas and preliminary survey results indicate this area will be important to fall staging geese this year since many of the larger basins still contain water. However the Kindersley area received 57% less precipitation from May 23 through July 18, 1985.

The midwinter goose survey conducted in the Mississippi Flyway in December of 1984 shows population increases from the 1983 estimates. Canada geese were up 24% at 934,700, snow geese up 69% at 992,700 and white fronts up 16% at 81,300. Total whitefronts estimated for the Mississippi, Pacific and Central Flyways were 270,400, down slightly from the 272,700 estimated for 1983 (Appendix 11). Midwinter waterfowl surveys conducted in Mexico by the U.S. Fish and Wildlife Service in January 1985 indicated a 44% reduction for total geese on the east coast (from 1981). For the Mexico Interior Highlands and Lower West Coast, the whitefront index was down 74% from 1982 and the snow goose index was 26% below 1982 estimates.

Discussions concerning bag limit changes to white fronted geese were held between SPRR and CWS staff. (Many hunters feel that the bag limit on the west side should be 3 whitefronts per day since the birds appear to be so plentiful). An evaluation of the white front status and hunting regulations conducted by CWS was completed prior to the 1985 meeting and yielded the following data:

1. The Saskatchewan harvest of white fronts has generally increased from 1969 to present but it appears harvest in the U.S.A. is increasing at a more rapid rate.
2. The annual productivity of eastern and western segment whitefronts is different.
3. Surveys indicate mid-continental whitefronts increased from 1962 to 1976 but have declined from 1978-83. The 1984 and 1985 spring surveys were incomplete and the data not comparable.
4. An increase in bag limits in Canada would influence some U.S. states to pressure for increased bag limits there.
5. Until more data is available the liberalization of bag limits is not biologically defensible.

1985 Goose Hunting Regulations

Bag limits will be the same as 1984. Season dates have been rolled back one week to correspond with the annual calender change. The whitefront bag limit in Zone 18 and Zone 20 was changed from 2 to 3 birds daily and these two zones are now included in the east-central management unit. Non-resident goose hunting will start October 2 in most zones. Appendix 2 gives goose season dates and details on morning only hunting.

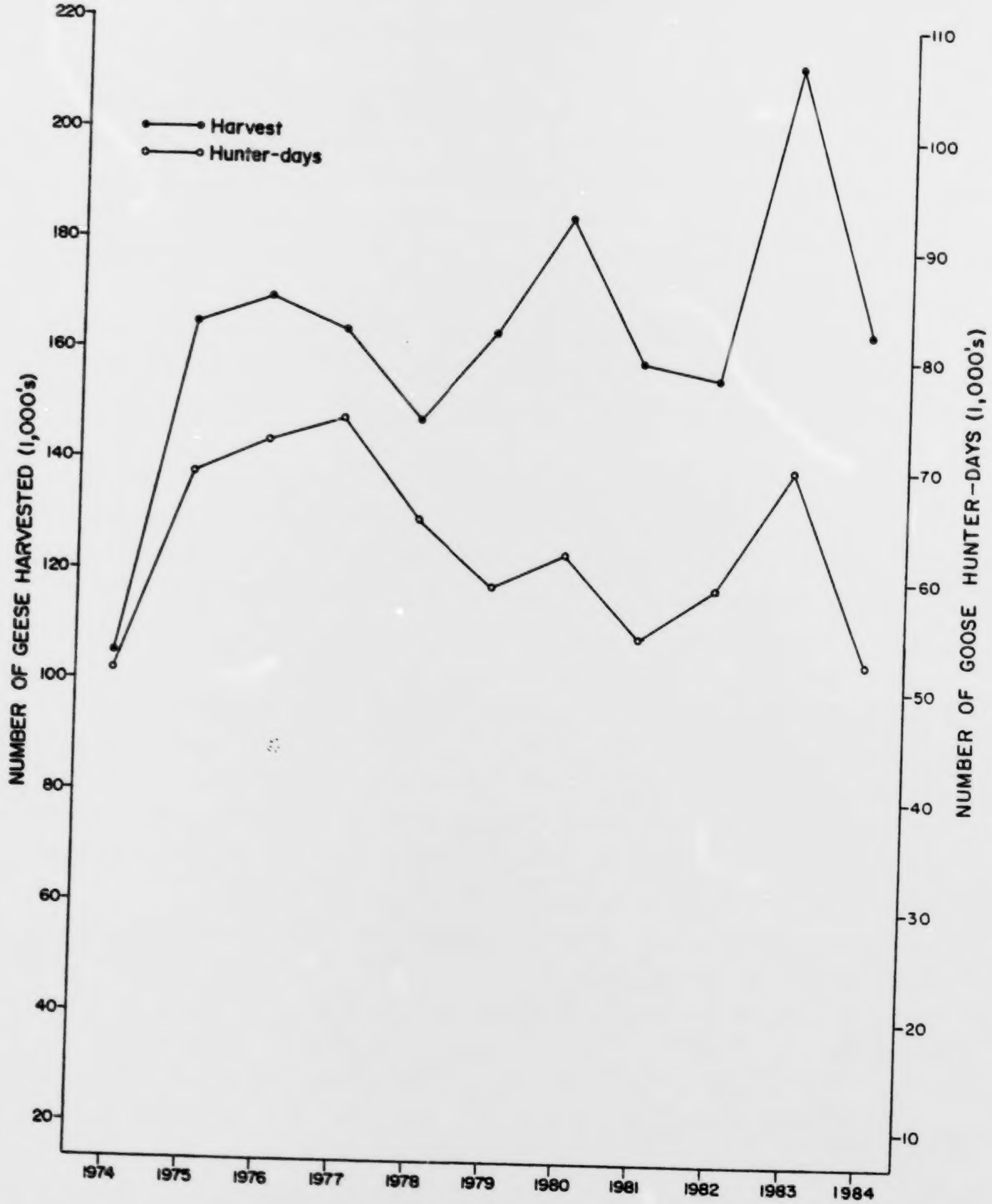


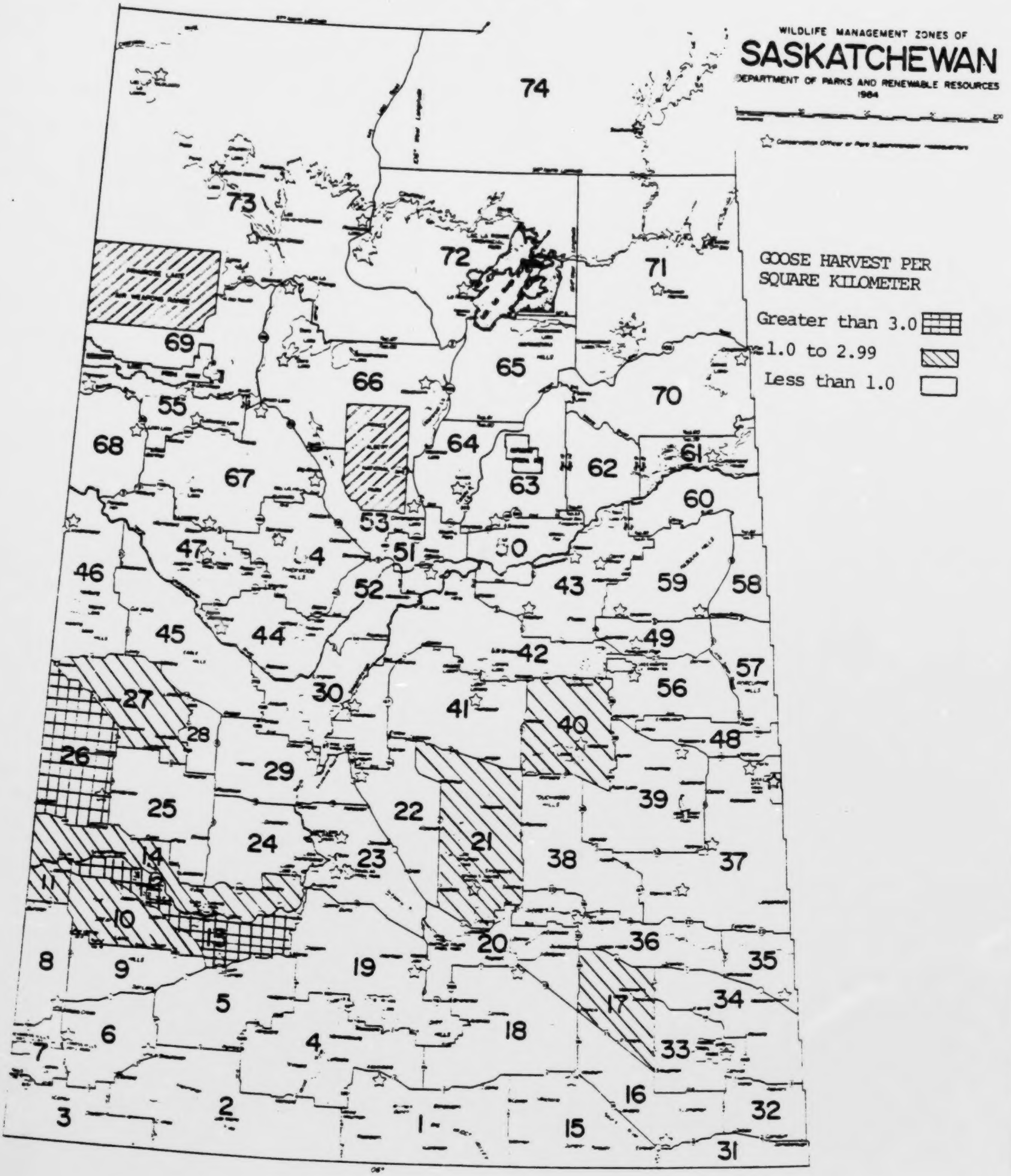
Figure 4. Saskatchewan goose hunter-days and harvest, 1974-1984

Table 5. Saskatchewan Goose Harvest and Hunting Pressure by Wildlife Management Zone 1984

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	669	0.41	121	0.080	0.9	713	300
2	480	0.30	226	0.045	1.4	336	156
3	183	0.11	60	0.043	1.9	99	29
4	1,878	1.16	675	0.231	1.0	1,907	716
5	2,233	1.38	568	0.374	1.4	1,626	808
6	368	0.23	151	0.088	1.4	274	103
7	149	0.09	63	0.078	1.9	79	41
8	1,042	0.64	190	0.307	2.7	388	304
9	2,483	1.53	456	0.723	2.6	947	746
10	5,548	3.42	794	1.565	2.7	2,062	1,666
11	1,844	1.14	424	1.872	3.2	578	451
12	4,203	2.59	583	12.219	3.3	1,288	1,164
13	12,686	7.82	1,773	3.106	2.5	5,173	3,886
14	8,779	5.41	1,559	1.573	2.6	3,422	3,002
GR	42,547	26.23	7,644	0.657	2.3	18,892	13,372
15	535	0.33	278	0.080	0.7	741	224
16	4,672	2.88	832	0.880	2.3	2,049	1,276
17	4,415	2.72	907	1.155	2.0	2,270	1,319
18	2,008	1.24	644	0.270	1.4	1,425	707
19	4,033	2.49	1,213	0.437	1.5	2,650	1,516
20	565	0.35	336	0.102	0.7	762	186
21	12,516	7.72	2,659	1.493	1.7	7,426	4,169
22	980	0.60	251	0.207	1.4	691	327
23	3,872	2.39	999	0.675	1.2	3,277	1,492
24	4,422	2.73	763	0.916	2.1	2,104	1,633
25	3,982	2.45	672	0.684	2.4	1,638	1,466
26	14,328	8.83	1,606	3.245	2.3	6,143	4,738
27	7,396	4.56	1,008	1.505	2.0	3,625	2,503
28	1,086	0.67	196	0.802	2.2	493	309
29	3,548	2.19	792	0.665	1.8	1,944	1,034
30	2,265	1.40	705	0.312	1.4	1,628	702
FA	70,623	43.54	13,862	0.778	1.8	38,866	23,600
31	182	0.11	100	0.072	1.3	140	81
32	97	0.06	70	0.035	1.8	52	32
33	787	0.49	249	0.203	1.4	560	248
34	679	0.42	270	0.126	1.8	369	206
35	80	0.05	40	0.030	0.8	100	30
36	362	0.22	287	0.070	0.5	798	172
37	2,218	1.37	722	0.196	1.0	2,249	651
38	659	0.41	330	0.103	0.6	1,095	209
39	3,803	2.34	1,046	0.500	1.5	2,501	1,083
40	11,122	6.86	2,434	2.054	1.4	7,972	4,041
41	2,938	1.81	929	0.407	1.2	2,542	940
42	5,422	3.34	1,436	0.731	1.5	3,585	1,526
43	2,493	1.54	608	0.368	1.5	1,626	671
44	2,492	1.54	651	0.544	1.1	2,215	747
45	2,408	1.48	569	0.314	2.1	1,162	656
46	3,487	2.15	570	0.585	2.3	1,512	912
47	1,034	0.64	359	0.181	1.1	944	298
PA	40,262	24.82	10,669	0.409	1.4	29,422	12,501
48	444	0.27	216	0.176	1.4	317	146
49	502	0.31	114	0.210	1.4	373	204
50	210	0.13	84	0.063	2.5	86	41
51	747	0.46	247	0.260	1.1	672	202
52	497	0.31	240	0.171	0.9	555	131
53	1,746	1.08	240	0.630	2.5	698	343
54	1,275	0.79	237	0.224	1.4	920	369
55	340	0.21	173	0.091	0.9	360	149
FF	5,761	3.55	1,553	0.219	1.5	3,981	1,587
56	811	0.50	220	0.172	1.8	464	238
57	50	0.03	10	0.015	3.3	15	5
58	338	0.21	70	0.151	2.8	119	55
59	192	0.12	65	0.033	2.1	91	61
60	0	0.00	10	0.000	0.0	38	0
61	764	0.47	122	0.251	0.7	1,139	297
62	20	0.01	16	0.005	0.4	52	10
63	50	0.03	20	0.009	1.3	40	10
64	68	0.04	36	0.019	2.6	26	16
65	0	0.00	0	0.000	0.0	0	0
66	0	0.00	10	0.000	0.0	35	0
67	589	0.36	168	0.068	1.8	335	142
68	0	0.00	10	0.000	0.0	60	0
69	64	0.04	14	0.008	0.9	69	14
70	39	0.02	9	0.005	0.3	153	7
71	17	0.01	6	0.001	0.4	40	17
72	0	0.00	10	0.000	0.0	75	0
73	0	0.00	0	0.000	0.0	134	0
FO	3,002	1.85	794	0.018	1.0	2,883	872
74	11	0.01	6	0.000	0.3	34	11
75	0	0.00	0	0.000	0.0	0	0
76	0	0.00	0	0.000	0.0	0	0
NS	11	0.01	6	0.000	0.3	34	11
>>>>>>>>>>>>>>>>>>>>> TOTAL >>>>>>>>>>>>>>>>>>>>>	162,206	100.00	34,528	0.032	1.7	94,078	51,943

* Hunter Days are based on all Waterfowl Hunting.
* The Total Active Hunter value is NOT the true Provincial Total.

Figure 5. Saskatchewan Goose Harvest Density 1984


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
1984
GOOSE HARVEST PER SQUARE KILOMETER
Greater than 3.0
1.0 to 2.99
Less than 1.0
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73
72
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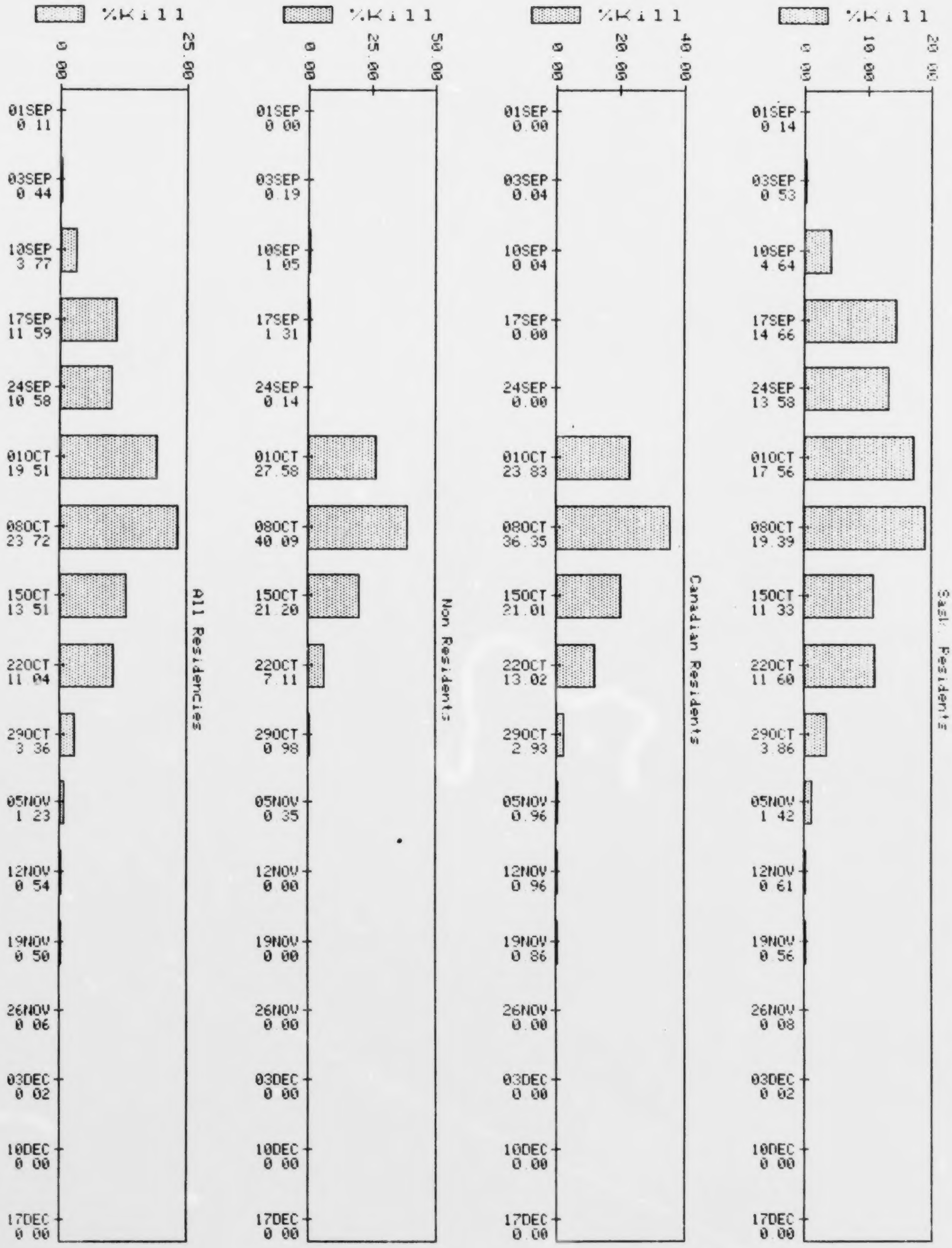


Fig. 6. Saskatchewan 1984 goose harvest by weekly interval.

SANDHILL CRANES

1984 Hunting Activity and Harvest

A total of 3,110 sandhill cranes were harvested in the 1984 hunting season (Table 6, Appendix 1). Nine hundred and thirty five of the 1,317 active crane hunters were successful and spent 835 hunter days hunting sandhill cranes. A whooping crane sighting in the Big Quill Lake area resulted in closure of the season in a portion of WMZ 38 and 40 on September 5, 1984. The season in this area was to have continued until September 11, 1984. Zone 21 accounted for 73% of the harvest. Central Flyway U.S. hunters in eight states harvested 11,270 cranes with crippling loss of 1890 birds for a total of 13,160 cranes. This compares to 15,180 cranes harvested in 1983 (down 13%).

1985 Populations and Regulations

1985 spring survey data indicate an increase in the continual crane population from 1984. In an attempt to increase recreational use and react to chronic crop damage complaints. Saskatchewan has recommended slightly more liberal bag limits and season dates for cranes in 1985. The daily bag limit will be raised to 5 sandhills per day with 10 in possession. Sandhill crane hunting will be restricted to residents of Canada only in 1985 following the recent inclusion of the sandhill crane on Appendix II of the CITES Treaty. (Convention on International Trade in Endangered Species of Wild Fauna and Flora). With the one week delay in the goose season, crane season has been extended to 14 days on the east side of the province and 12 days on the west side.

1985 Sandhill Crane Season dates:

Zones 19, 21-24, 29, 30, 37-42, 44 and 52	Sept. 2 - Sept.17
Zones 11 to 14	Sept. 11 - Sept. 24

Table 6. Saskatchewan Sandhill Crane Harvest and Hunting Pressure by Wildlife Management Zone 1984

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	0	0.00	0	0.000	0.0	0	0
2	0	0.00	0	0.000	0.0	0	0
3	0	0.00	0	0.000	0.0	0	0
4	0	0.00	0	0.000	0.0	0	0
5	0	0.00	0	0.000	0.0	0	0
6	0	0.00	0	0.000	0.0	0	0
7	0	0.00	0	0.000	0.0	0	0
8	0	0.00	0	0.000	0.0	0	0
9	0	0.00	0	0.000	0.0	0	0
10	0	0.00	0	0.000	0.0	0	0
11	0	0.00	0	0.000	0.0	0	0
12	22	0.70	21	0.064	3.8	6	6
13	22	0.70	21	0.005	3.8	6	6
14	44	1.41	52	0.008	3.8	12	12
GR	88	2.82	94	0.001	3.8	23	23
15	0	0.00	0	0.000	0.0	0	0
16	0	0.00	0	0.000	0.0	0	0
17	0	0.00	0	0.000	0.0	0	0
18	0	0.00	0	0.000	0.0	0	0
19	0	0.00	0	0.000	0.0	0	0
20	0	0.00	0	0.000	0.0	0	0
21	2,273	73.09	795	0.271	3.9	588	588
22	52	1.66	31	0.011	2.5	21	21
23	21	0.67	11	0.004	2.0	10	10
24	0	0.00	0	0.000	0.0	0	0
25	0	0.00	0	0.000	0.0	0	0
26	0	0.00	0	0.000	0.0	0	0
27	0	0.00	0	0.000	0.0	0	0
28	0	0.00	0	0.000	0.0	0	0
29	177	5.70	104	0.033	4.1	43	43
30	1	0.03	11	0.000	2.5	0	0
FA	2,524	81.15	952	0.028	3.8	663	663
31	0	0.00	0	0.000	0.0	0	0
32	0	0.00	0	0.000	0.0	0	0
33	0	0.00	0	0.000	0.0	0	0
34	0	0.00	0	0.000	0.0	0	0
35	0	0.00	0	0.000	0.0	0	0
36	0	0.00	0	0.000	0.0	0	0
37	121	3.90	31	0.011	4.0	31	31
38	0	0.00	0	0.000	0.0	0	0
39	1	0.03	11	0.000	2.5	0	0
40	185	5.95	73	0.034	5.0	37	37
41	73	2.34	42	0.010	2.8	26	26
42	65	2.08	63	0.009	3.0	22	22
43	0	0.00	0	0.000	0.0	0	0
44	53	1.70	42	0.012	1.7	31	31
45	0	0.00	0	0.000	0.0	0	0
46	0	0.00	0	0.000	0.0	0	0
47	0	0.00	0	0.000	0.0	0	0
PA	498	16.00	261	0.005	3.4	147	147
48	0	0.00	0	0.000	0.0	0	0
49	0	0.00	0	0.000	0.0	0	0
50	0	0.00	0	0.000	0.0	0	0
51	0	0.00	0	0.000	0.0	0	0
52	1	0.03	11	0.000	2.5	0	0
53	0	0.00	0	0.000	0.0	0	0
54	0	0.00	0	0.000	0.0	0	0
55	0	0.00	0	0.000	0.0	0	0
FF	1	0.03	11	0.000	2.5	0	0
56	0	0.00	0	0.000	0.0	0	0
57	0	0.00	0	0.000	0.0	0	0
58	0	0.00	0	0.000	0.0	0	0
59	0	0.00	0	0.000	0.0	0	0
60	0	0.00	0	0.000	0.0	0	0
61	0	0.00	0	0.000	0.0	0	0
62	0	0.00	0	0.000	0.0	0	0
63	0	0.00	0	0.000	0.0	0	0
64	0	0.00	0	0.000	0.0	0	0
65	0	0.00	0	0.000	0.0	0	0
66	0	0.00	0	0.000	0.0	0	0
67	0	0.00	0	0.000	0.0	0	0
68	0	0.00	0	0.000	0.0	0	0
69	0	0.00	0	0.000	0.0	0	0
70	0	0.00	0	0.000	0.0	0	0
71	0	0.00	0	0.000	0.0	0	0
72	0	0.00	0	0.000	0.0	0	0
73	0	0.00	0	0.000	0.0	0	0
FO	0	0.00	0	0.000	0.0	0	0
74	0	0.00	0	0.000	0.0	0	0
75	0	0.00	0	0.000	0.0	0	0
76	0	0.00	0	0.000	0.0	0	0
NS	0	0.00	0	0.000	0.0	0	0
>>>>>>>>>>>>>>>>>>>>> T O T A L >>>>>>>>>>>>>>>>>>>>>>	3,110	100.00	1,317	0.000	3.7	833	833

• The Total Active Hunter value is NOT the true Provincial Total.

OTHER WATERFOWL REGULATIONS

The 500 meter hunting restrictions on major waterfowl staging areas are set by the province. No changes in restrictions are recommended for 1985.

A few requests for 500 metre restrictions will be evaluated in 1985. These include Moose Mountain Lake (north of Stoughton), the Chapleau Lakes near Montmartre, Wakaw Lake northeast of Saskatoon, Buck Lake south of Regina, and Lonetree and Island Lakes near Climax. Decisions on whether to implement 500 metre restrictions on these water bodies will be made before the 1986 hunting season.

A request has also been received to restore the 500 metre restriction on the North Sask. River, west of Paynton. Attempts will also be made to survey this area in the fall of 1985.

UPLAND GAME BIRDS

1984 HUNTING ACTIVITY

Upland bird hunting activity was significantly lower in the fall of 1984 with a decrease of 25% in hunter recreation days and 21% in active hunters (Tables 7, 8). Activity was 31% below the 1973-1983 average. The 22,500 active upland bird hunters each spent an average of 2.0 days hunting. Activity decreased for all upland species.

The Farmlands (Zones 15-30) continued to receive the heaviest hunting pressure (Table 9) with 40% of total hunter days generated there. However, on an area basis, hunting pressure in the Grasslands and Farmlands was virtually equal with .196 hunter days/km^2 in the Grasslands and .198 hunter days/km^2 in the Farmlands. Zone 11 (Burstall Sandhills) received the heaviest upland hunting pressure with 0.51 days/km^2 of gross area. Zones 4, 5, 15 and 19 received between .3 and .5 hunter days/km^2, while Zones 12, 21, 23, 29, 31 and 35 received between .2 and .3 hunter days/km^2 of gross area.

Since the area of native habitat per new wildlife management zone has not been calculated yet, hunting pressure on native habitat cannot be compared to 1983.

Table 7. Saskatchewan Upland Game Bird Hunting Activity, 1973-84

Year	Active Upland Bird Hunters	Upland Bird Hunter Days	Hunter Days/ Active Hunter
1973	28,500	53,275	1.9
1974 *	21,857	37,801	1.7
1975 *	27,812	48,161	1.7
1976 *	39,035	86,525	2.2
1977 *	41,772	93,496	2.2
1978	36,766	72,378	2.0
1979	36,373	72,096	2.0
1980	36,786	75,578	2.1
1981	32,147	68,988	2.1
1982	26,884	50,382	1.9
1983	28,266	60,146	2.1
1973-1983 Average	32,382	65,348	2.0
1984	22,334	44,854	2.0
% Change			
1984 from 1983	- 21%	- 25%	- 5%
1984 from Average	- 31%	- 31%	No Change

* Erroneous data was published for these years prior to 1979 corrections.

Table 8. Saskatchewan Upland Game Bird Harvest Summary 1984

	Sask. Resident		Non-Resident- Can		Non-Res.		All Hunte	
HARP-TAILED GROUSE	46,476	[illegible]	3,028	[illegible]	[illegible]		[illegible]	
Successful Hunters (% of Active)	10,796	(70.73%)	526	(72.02%)	870	(74.39%)	12,192	(71.03%)
Active Hunters	15,263		731		1,170		17,164	
Kill / Active Hunter	3.0		4.1		4.0		3.2	
Kill / Successful Hunter	4.3		5.8		5.4		4.4	
Days / Active Hunter	1.0		1.4		1.4		1.0	
Days / Successful Hunter	1.4		2.0		1.9		1.4	
Days Hunted	14,755.9		1,044.0		1,621.6		17,421.4	
HUNGARIAN PARTRIDGE	50,218	83.98%	3,045	5.09%	6,531	10.92%	59,794	100.00%
Successful Hunters (% of Active)	9,860	(71.55%)	513	(78.14%)	853	(79.47%)	11,227	(72.37%)
Active Hunters	13,781		657		1,074		15,511	
Kill / Active Hunter	3.6		4.6		6.1		3.9	
Kill / Successful Hunter	5.1		5.9		7.7		5.3	
Days / Active Hunter	1.0		1.4		1.6		1.1	
Days / Successful Hunter	1.4		1.8		2.0		1.5	
Days Hunted	13,930.0		935.3		1,745.9		16,611.1	
RUFFED GROUSE	11,880	91.48%	439	3.38%	667	5.13%	12,986	100.00%
Successful Hunters (% of Active)	3,731	(59.24%)	109	(58.13%)	130	(58.97%)	3,970	(59.20%)
Active Hunters	6,298		187		220		6,706	
Kill / Active Hunter	1.9		2.3		3.0		1.9	
Kill / Successful Hunter	3.2		4.0		5.1		3.3	
Days / Active Hunter	0.7		0.9		1.1		0.7	
Days / Successful Hunter	1.1		1.6		1.9		1.2	
Days Hunted	4,218.8		169.7		248.6		4,637.1	
SPRUCE GROUSE	4,308	99.14%	9	0.20%	28	0.65%	4,345	100.00%
Successful Hunters (% of Active)	1,015	(66.66%)	4	(50.00%)	6	(100.00%)	1,025	(66.69%)
Active Hunters	1,522		9		6		1,537	
Kill / Active Hunter	2.8		1.0		5.0		2.8	
Kill / Successful Hunter	4.2		2.0		5.0		4.2	
Days / Active Hunter	0.9		0.5		2.0		0.9	
Days / Successful Hunter	1.3		1.0		2.0		1.3	
Days Hunted	1,323.4		4.4		11.3		1,339.0	
PHEASANT	12,169	100.00%	0	0.00%	0	0.00%	12,169	100.00%
Successful Hunters (% of Active)	3,323	(66.80%)	0	(0.00%)	0	(0.00%)	3,323	(66.80%
Active Hunters	4,975		0		0		4,975	
Kill / Active Hunter	2.4		0.0		0.0		2.4	
Kill / Successful Hunter	3.7		0.0		0.0		3.7	
Days / Active Hunter	1.0		0.0		0.0		1.0	
Days / Successful Hunter	1.5		0.0		0.0		1.5	
Days Hunted	4,865.6		0.0		0.0		4,865.6	
ALL UPLAND GAMEBIRDS	125,052	87.12%	6,521	4.54%	11,955	8.32%	143,528	100.00%
Successful Hunters (% of Active)	16,378	(81.80%)	705	(78.64%)	1,153	(81.27%)	18,235	(81.64%)
Active Hunters	20,019		896		1,418		22,334	
Kill / Active Hunter	6.2		7.3		8.4		6.4	
Kill / Successful Hunter	7.6		9.3		10.4		7.9	
Days / Active Hunter	2.0		2.4		2.6		2.0	
Days / Successful Hunter	2.4		3.1		3.1		2.5	
Days Hunted	39,073.7		2,153.3		3,627.3		44,854.2	

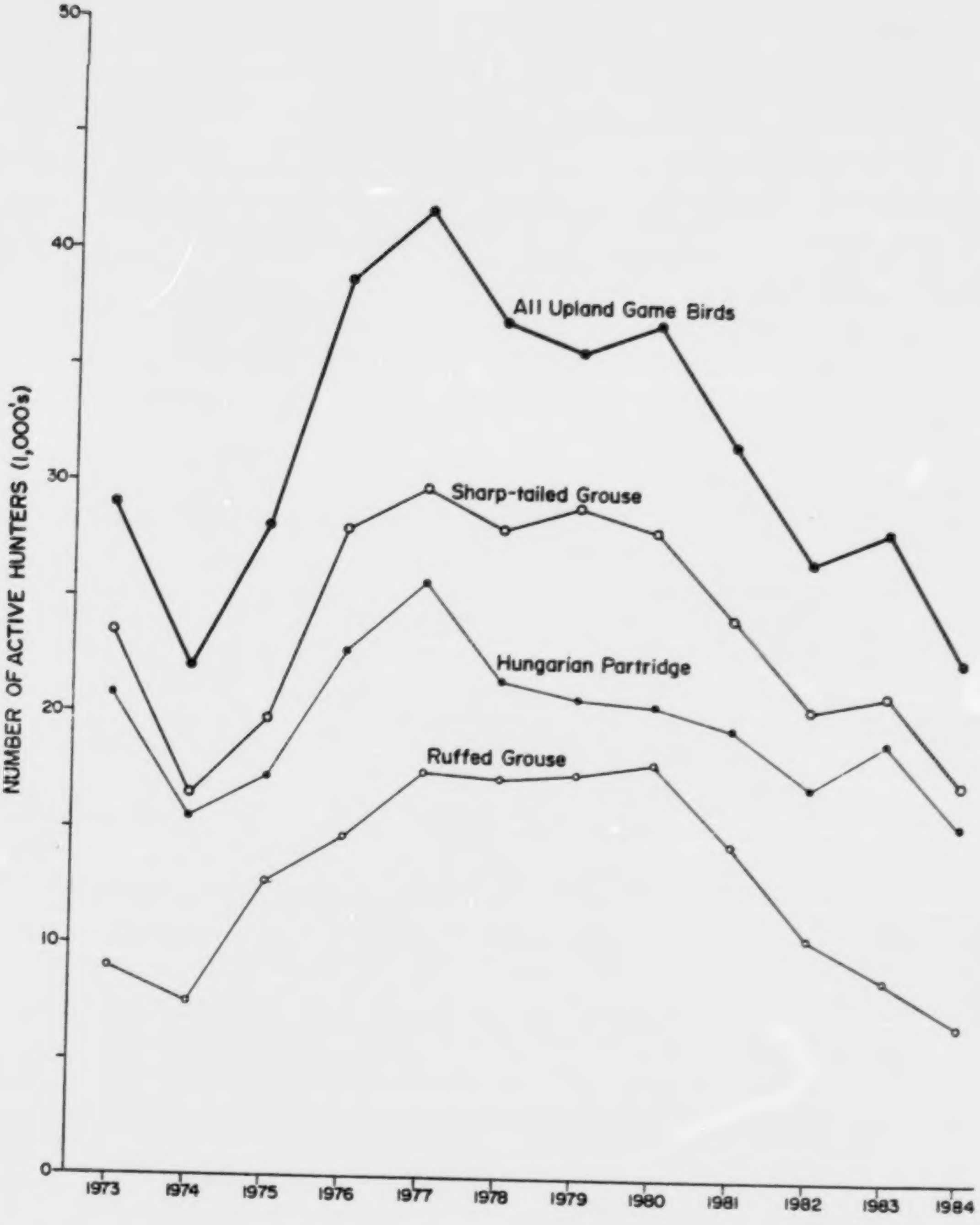


Figure 7. Upland game bird hunters active in Saskatchewan, 1973-1984. (Active pheasant hunters included in 1983-1984)

Table 9. Saskatchewan 1984 Upland Game Bird Hunting Activity By Wildlife Management Division

Wildlife Management Division	Hunter Days	% of Total	Hunter days/km^2
Grassland (64,799 km^2, 10.3%)	12,717	28.4%	0.196
Farmlands (90,826 km^2, 14.5%)	18,010	40.2%	0.198
Parklands (98,446 km^2, 15.7%)	10,066	22.5%	0.102
Forest Fringe (26,262 km^2, 4.2%)	1,426	3.2%	0.054
Forest (165,120 km^2, 26.3%)	2,509	5.6%	0.015
Northern Shield (181,799 km^2, 29.0%)	55	0.1%	$<$ 0.000
Provincial Total (627,252 km^2)	44,783	100%	0.071

SHARP-TAILED GROUSE

1984 Hunting Activity and Harvest

The 1984 provincial sharptail harvest decreased by 8% from 1983 to 54,000 birds, the second lowest level since 1974 and 39% below the long term average (Tables 10, 11; Figure 9). The 1984 season dates were again delayed in order to reduce the harvest. Reproduction in 1984 was poor with a provincial index of 0.97 juveniles per adult in the harvest. Surprisingly, hunter successs actually increased from 1983 with 3.2 birds harvested per active sharptail hunter. Active sharptail hunters decreased by 18% to 17,000 and the number of sharptails harvested per upland hunter day (1.2/day) increased slightly from 1983 (1.0/day).

Hunter success in the Grasslands dropped to 0.83 birds harvested per hunter day from 0.97 in 1983. In the Farmlands, success increased to 1.40 birds per day from 1.06 in 1983. Parkland upland hunters increased their success to 1.59 birds per hunter day from 1.00 in 1983. These figures are not strictly comparable due to the wildlife management zone changes inaugurated in 1984 but help provide a general measure of hunter success. The low reproductive index of only 0.53 juveniles per adult in the Grassland harvest certainly explains the drop in hunter success in this area of the province.

The five major sharp-tailed grouse hunting zones in 1984 based on harvest/km^2 for total zone area were wildlife management zones 11, 15, 19, 31 and 35 (Table 13). Twenty-eight per cent of the sharptail harvest occurred during the opening week (October 1-6).

Table 10. Sharp-tailed Grouse Hunting Data for Saskatchewan, 1972-1984

	Hunting Level			Hunting Success		
Year	Active Sharptail Hunters	Total All Upland Bird Hunter Days	Hunter Days/ Active Sharptail Hunter	Sharptail Harvest	Sharptails Harvested/ Active Sharptail Hunter	Sharptails Harvested/ Total Upland Hunter Days
1972	28,575	56,534	2.0	107,813	3.8	1.9
1973	23,498	53,275	2.3	88,178	3.8	1.7
1974 *	16,041	37,801	2.4	48,808	3.0	1.2
1975 *	19,746	48,161	2.4	60,428	3.1	1.1
1976 *	27,976	86,525	3.1	130,784	4.7	1.5
1977 *	29,794	93,496	3.1	107,003	3.6	1.1
1978	27,577	72,380	2.6	104,497	3.8	1.4
1979	28,221	72,096	2.6	126,824	4.5	1.8
1980	27,949	75,578	2.7	108,455	3.9	1.4
1981	24,461	68,988	2.8	82,745	3.4	1.2
1982 *	20,375	50,382	2.5	51,741	2.5 *	1.0
1983	21,068	60,146 **	2.9	58,823	2.8	1.0
1972-1983 Average	24,606	64,614	2.6	89,675	3.5	1.4
1984	17,164	44,854	2.6	54,233	3.2	1.2
% Change						
1984 from 1983	- 18%	- 25%	- 10%	- 8%	+ 14%	+ 20%
1984 from Average	- 30%	- 31%	No change	- 39%	- 9%	- 14%

* Erroneous data was previously published for these years

** 1983 & 1984 total upland bird hunter days includes pheasant hunter days

Table 11. Sharptail Grouse Harvest and Hunting Pressure by Wildlife Management Zone 1984

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	936	1.73	301	0.112	1.2	811	300
2	1,561	2.89	607	0.147	0.8	2,039	561
3	103	0.19	60	0.024	1.0	98	39
4	1,596	2.95	896	0.197	0.4	3,866	675
5	1,424	2.63	529	0.239	0.7	1,994	464
6	266	0.49	115	0.063	0.9	310	88
7	76	0.14	63	0.040	0.6	118	19
8	114	0.21	100	0.034	0.6	198	45
9	1,149	2.13	386	0.335	1.9	614	334
10	1,161	2.15	469	0.327	1.7	681	358
11	579	1.07	245	0.588	1.1	506	199
12	139	0.26	89	0.405	1.7	82	45
13	790	1.46	497	0.193	1.1	716	280
14	662	1.22	366	0.119	1.0	684	245
GR	10,555	19.52	4,722	0.163	0.8	12,717	3,652
15	3,267	6.04	848	0.486	1.2	2,728	956
16	1,558	2.88	465	0.294	1.8	868	452
17	921	1.70	519	0.241	1.4	670	343
18	968	1.79	438	0.130	1.0	929	352
19	5,908	10.92	1,495	0.641	1.8	3,286	1,651
20	1,257	2.32	645	0.227	1.2	1,047	474
21	2,511	4.64	1,378	0.300	1.1	2,375	898
22	795	1.47	279	0.168	1.2	658	288
23	1,784	3.30	868	0.311	1.3	1,391	630
24	1,079	2.00	506	0.223	1.3	853	386
25	350	0.65	235	0.060	1.2	289	96
26	562	1.04	267	0.127	1.4	405	161
27	500	0.92	231	0.102	1.7	294	165
28	168	0.31	74	0.124	2.3	74	44
29	2,088	3.86	732	0.392	1.9	1,122	594
30	1,463	2.70	855	0.202	1.4	1,020	468
FA	25,179	46.55	9,833	0.277	1.4	18,010	7,957
31	1,063	1.96	284	0.421	1.5	714	305
32	796	1.47	213	0.285	2.1	378	191
33	786	1.45	268	0.202	1.5	534	215
34	1,309	2.42	338	0.243	2.4	551	355
35	1,105	2.04	276	0.423	2.1	528	279
36	1,156	2.14	459	0.223	1.5	755	392
37	2,430	4.49	719	0.215	1.5	1,673	782
38	755	1.40	390	0.118	1.0	732	304
39	1,125	2.08	524	0.148	1.7	681	317
40	1,488	2.75	651	0.275	1.8	814	505
41	569	1.05	257	0.079	1.3	449	223
42	377	0.70	286	0.051	1.0	379	146
43	284	0.52	209	0.042	0.9	326	107
44	1,122	2.07	513	0.245	2.0	555	326
45	1,113	2.06	371	0.145	2.4	474	277
46	210	0.39	198	0.035	1.2	172	57
47	301	0.56	268	0.053	0.9	352	116
PA	15,988	29.56	6,223	0.162	1.6	10,066	4,896
48	221	0.41	157	0.087	0.9	240	96
49	31	0.06	65	0.013	0.5	65	11
50	134	0.25	132	0.040	0.8	162	28
51	62	0.11	137	0.022	0.5	116	26
52	248	0.46	187	0.085	1.4	182	82
53	74	0.14	94	0.027	0.4	207	27
54	379	0.70	206	0.067	1.4	277	162
55	170	0.31	96	0.045	1.0	178	45
FF	1,319	2.44	1,075	0.050	0.9	1,426	477
56	141	0.26	85	0.030	1.0	147	51
57	30	0.06	40	0.009	0.9	35	10
58	10	0.02	30	0.004	0.7	15	5
59	10	0.02	70	0.002	0.2	50	5
60	30	0.06	40	0.008	0.6	55	15
61	6	0.01	6	0.002	0.3	21	6
62	0	0.00	30	0.000	0.0	45	0
63	122	0.23	108	0.022	0.5	265	31
64	70	0.13	50	0.020	0.3	245	20
65	10	0.02	30	0.002	0.0	284	5
66	10	0.02	30	0.001	0.1	129	10
67	152	0.28	182	0.017	0.7	204	56
68	40	0.07	50	0.010	0.4	114	25
69	60	0.11	30	0.008	0.3	179	35
70	209	0.39	74	0.025	0.5	418	80
71	30	0.06	20	0.002	0.4	85	15
72	119	0.22	30	0.006	1.4	85	25
73	0	0.00	20	0.000	0.0	134	0
FO	1,047	1.93	922	0.006	0.4	2,509	392
74	0	0.00	0	0.000	0.0	20	0
75	0	0.00	0	0.000	0.0	10	0
76	0	0.00	0	0.000	0.0	25	0
NS	0	0.00	0	0.000	0.0	55	0
T O T A L	54,088	100.00	22,776	0.008	1.2	44,783	17,375

* Hunter Days are based on all Upland Hunting.
* The Total Active Hunter value is NOT the true Provincial Total.

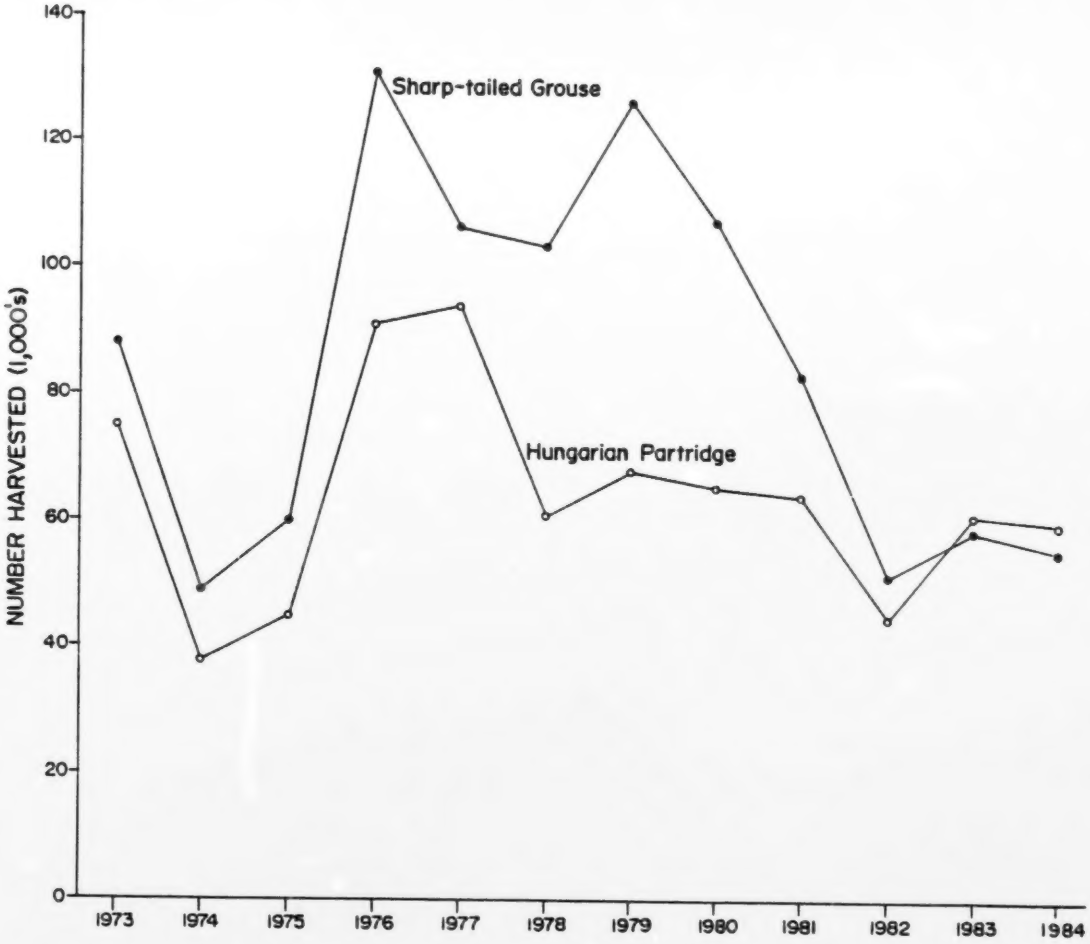


Figure 9. Saskatchewan Sharp-tailed Grouse and Hungarian Partridge harvest, 1973-1984.

Table 12. Sharp-tailed Grouse Hunting Data for Saskatchewan by Wildlife Management Divisions, 1984

	Grassland Zones 1-14	Farmland Zones 15-30	Parkland Zones 31-47	Forest Fringe Zones 48-55	Forest Zones 56-73	Northern Shield Zones 74-76	Province Zones 1-76
Sharptail Harvest (% of Total)	10,555 19.5%	25,179 46.5%	15,988 29.6%	1,319 2.4%	1,047 1.9%	0 0%	54,088 100%
Harvest Pressure (Sharptail kill/km^2)	0.163	0.277	0.162	0.050	0.006	0.0	0.008
All Upland Bird Hunter Days (% of Total)	12,717 28.4%	18,010 40.2%	10,066 22.5%	1,426 3.2%	2,509 5.6%	55 0.1%	44,783 100%
Species Hunter Days (% of Total)	3,652 21.0%	7,957 45.8%	4,896 28.2%	477 2.7%	392 2.3%	0 0%	17,375 100%
Hunting Pressure (Hunter days/km^2)	0.196	0.198	0.102	0.054	0.015	0.0	0.071
Hunter Success (Sharptail kill/all hunter day)	0.83	1.40	1.59	0.92	0.42	0.0	1.21

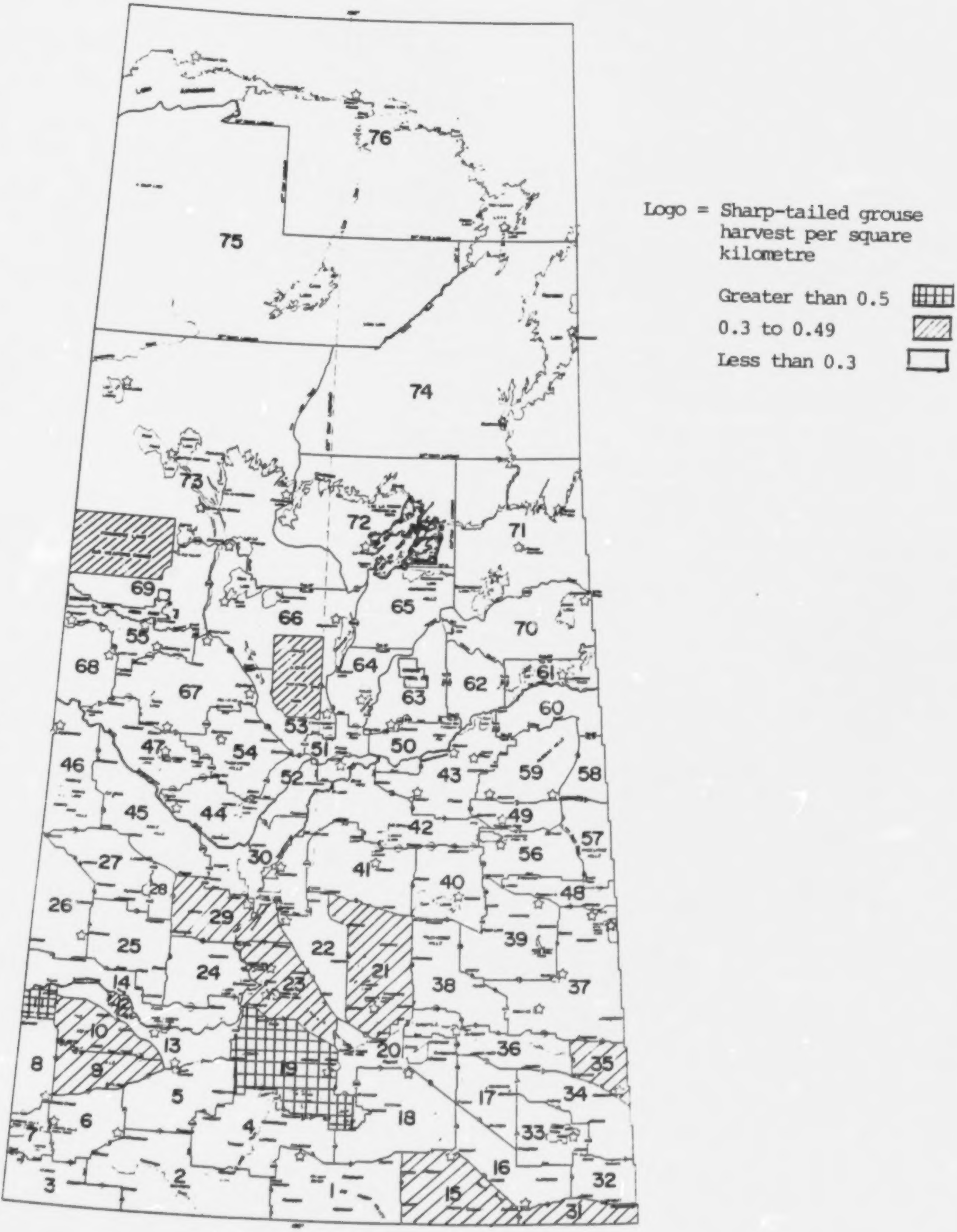
Table 13. Most Important Sharp-tailed Grouse Harvest Areas in Saskatchewan, 1984 and 1983

	1984			1983*			
Rank	Wild-life Mgmt. Zone	Sharptail Harvest/ Sq km Gross Area	% of Provincial Harvest	Former Game Mgmt. Zone	Sharptail Harvest/ Sq km Native Habitat	Sharptail Harvest Sq km Gross Area	% of Provincial Harvest
1st	19	0.641	10.92	11	2.51	0.66	5.7%
2nd	11	0.588	1.07	9	1.74	0.39	10.8
3rd	15	0.486	6.04	7	1.58	0.39	12.0
4th	35	0.423	2.04	12	1.35	0.31	7.6
5th	31	0.421	1.96	13	1.31	0.31	9.6%
Total for	Leading 5 Zones	0.540	22.03%	Leading 5 Zones	1.58	0.39	45.7%

* 1983 ranked according to harvest density, based on native habitat area. 1984 ranked only on harvest/gross area in zone.

NOTE: 1983 data assumes no decrease in native habitat in these zones since 1982.

Figure 10. Sharp-tailed Grouse Harvest Density 1984.



Logo = Sharp-tailed grouse harvest per square kilometre

Greater than 0.5 ▦

0.3 to 0.49 ▨

Less than 0.3 ☐

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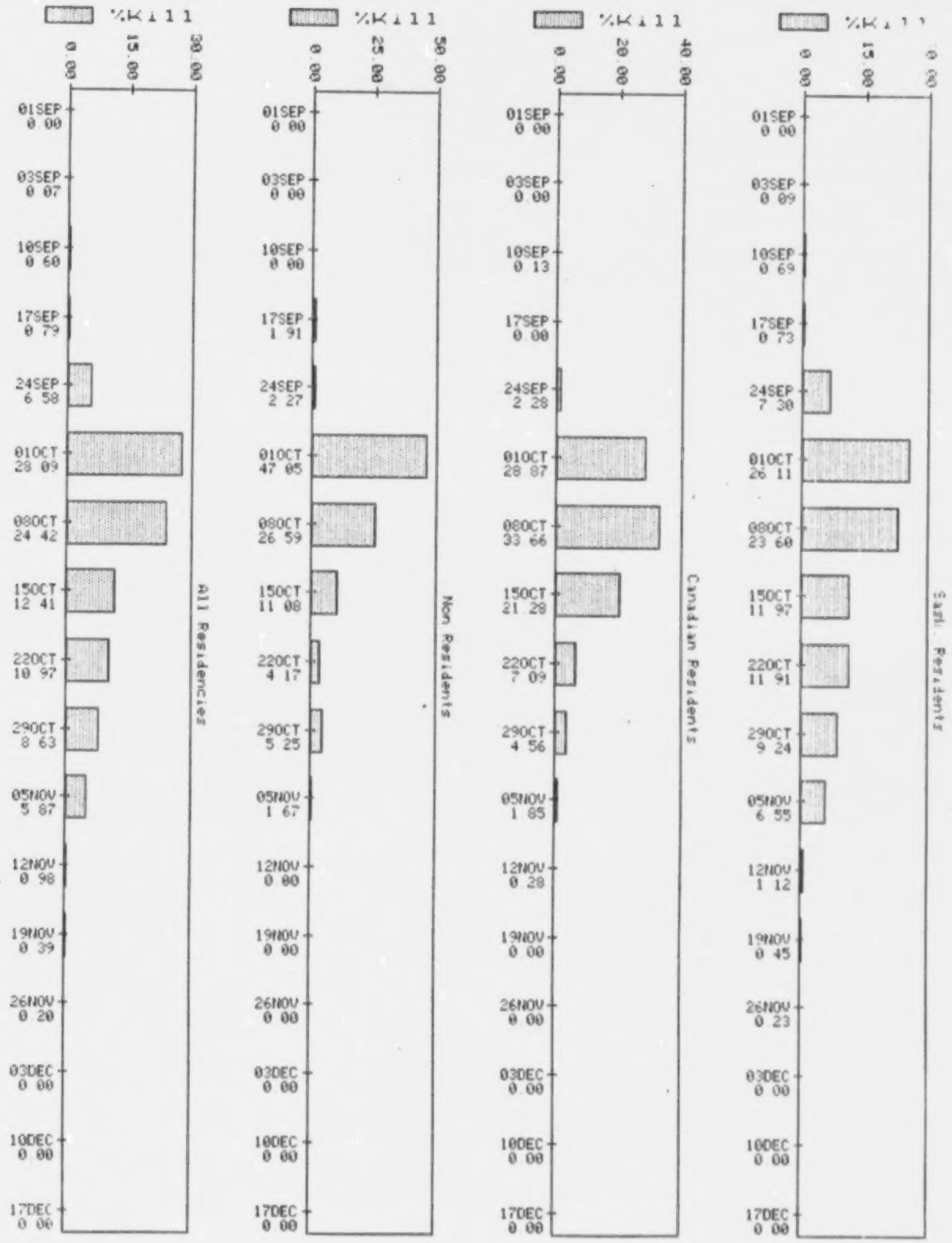


Figure 11. Saskatchewan 1984 Sharp-tailed grouse harvest by weekly intervals.

1984 Sharp-tailed Grouse Reproduction

Sharptail reproduction, based on the young to adult ratio in a sample of the hunter harvest, slipped 33% provincially in 1984 to 0.97 juveniles per adult from 1.45 in 1983 (Table 14, Figure 12, Appendix 8). The Parkland was the only ecological division showing an increase in reproduction in 1984 (26% over 1983 levels) (11% above the 1975-83 average). The provincial index in 1984 was 30% below the 1975-83 average of 1.39 young/adult. The Forest index of 2.33 young/adult seems more reasonable than the 1983 index of .58 even though the sample size was only 30 wings. The Grassland index of .53 is of special concern since it shows we harvested almost 2 adults for every young bird.

1985 Sharp-tailed Grouse Breeding Population

The provincial population index for breeding sharp-tailed grouse is 3.06 breeding males/mi^2 (1.18 males/km ^{2}) for 1985 (Table 15, Figure 13), a decrease of 27% over 1984 levels for comparable survey areas. The Grassland, Farmland and Parkland surveys all reflect the provincial trend. Surveys in the Forest Fringe and Forest were dropped in 1985 due to the low hunter demand in these areas and difficult spring weather conditions which often preclude completion of the surveys.

The provincial status of sharptails continues to be of concern. The Northern Fringe Sandhills survey indicated a reduction (31%) from 1984 while the Webb survey showed a slight increase of 18%. The northern portion of the Sandhills (4.26 males/mi^2 or 1.65 per km^2) no longer supports one of the highest densities of sharptails in the province. At least seven other survey blocks had higher densities in the spring of 1985.

Populations in the Farmland zones showed a trend downward (-31%). Densities decreased in all 8 comparable survey areas.

The Parkland surveys showed a similar downward trend in all 7 comparable blocks. The Val Jean Pasture sharptail population in Zone 19 ranks first in density for survey areas in the province with 9.64 males/mi^2 (3.72 males/km ^{2}) in a 19 mi^2 block (49.21 km ^{2}).

Table 14. Sharp-tailed Grouse Reproduction in Saskatchewan, 1984 vs Historic
(Based on Sample of Wings from Hunter-Killed Birds)

(Juvenile/Adult in Harvest)

Wildlife Management Division	1981	1982	1983	1975-83 Average	1984	% Change 1984 from 1983	% Change 1984 from Average (1975-83)
Grassland	0.62	0.85	1.07	0.96	0.53	- 50%	- 45%
Farmland	0.81	2.19	1.62	1.55	1.06	- 35%	- 32%
Parkland	0.98	2.44	1.36	1.54	1.71	+ 26%	+ 11%
Forest Fringe plus Forest	0.62	2.50	0.58 ***	2.22*	2.33	+ 302***	+ 5% *
PROVINCE	0.77	1.96	1.45	1.39 1.55 **	0.97	- 33%	- 30% - 37%**

* 1983 data not included due to low sample size

** 1957-1982 Average

*** Sample less than 50 wings

NOTE: New wildlife management zones used for 1984 data.

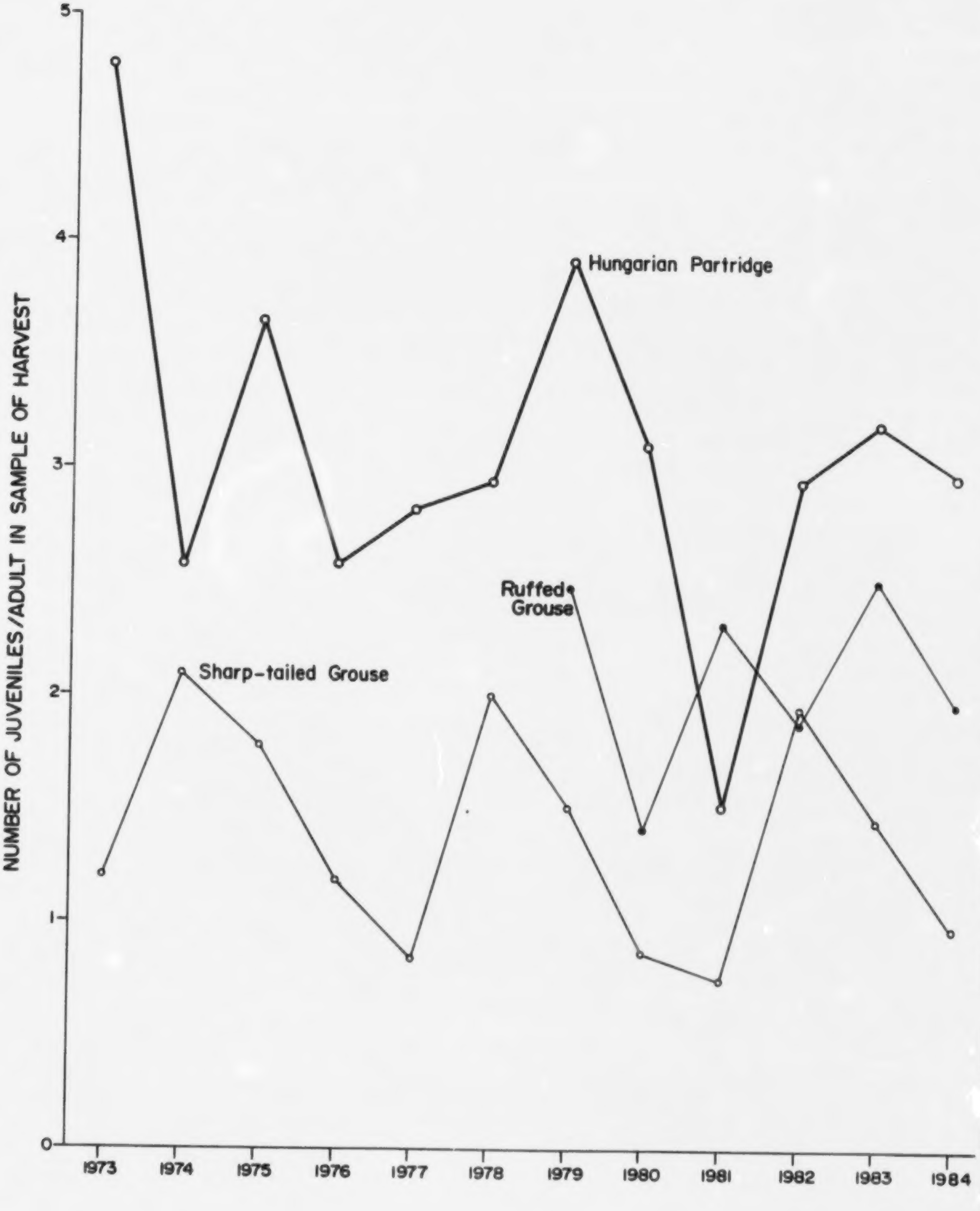


Figure 12. Saskatchewan upland game bird fall age ratios (reproduction index), 1973-1984

Table 15. Saskatchewan Sharp-tailed Grouse Breeding Population Surveys, Spring 1985

Wildlife Management Zone	Survey Area	Area Surveyed (Sq mi)	Number of Active Dancing Grounds	Breeding Males/Sq Mi	
				Number	% Change from 1984*
1	Amulet	20	3	1.15	- 59
4	Meyronne	16	3	2.50	- 20
5	Turkey Track	16	2	2.50	New Survey
9	Webb	20	6	4.75	+ 18
10	Sandhills N. Fringe	19	11	4.26	- 31
10	Elkinks	16	5	2.25	—
13	Knights	20	4	1.65	New Survey
14	Sask. Landing	20	2	1.95	—
GRASSLAND		165	36	2.34	- 17%
15	Estevan-Cambria	16	5	3.87	New Survey
15	Goodwater	18	10	5.66	- 40
17	Indian Head South	16	4	2.37	- 25
19	Val Jean	19	7	9.64	New Survey
19	Mortlach	20	7	5.10	- 26
20	Bethune	27.5	4	1.41	- 39
21	Gibbs	16	3	2.68	- 43
21	Last Mountain Lake	15	5	1.66	New Survey
22	Bradwell	24	6	1.95	—
23	Elbow	16	8	5.75	New Survey
26	Alsask	19	8	3.78	- 19
29	Goose Lake	21.5	6	2.79	- 10
30	Asquith	12	3	2.33	- 20
FARMLAND		240	76	3.47	- 31%
32	Carnduff	16	8	3.43	- 37
33	Tecumseh	20	11	4.30	- 33
34	Moosomin South	27	6	1.62	- 44
35	Spy Hill	20.25	7	3.62	New Survey
36	Pheasant Creek	9.5	2	5.57	- 5
37	Togo-Calder	13.5	4	3.70	- 17
40	Quill Lakes	16	3	2.31	- 13
44	Hafford	12	6	3.41	—
45	Aroma Lake	18	4	2.66	- 9
PARKLAND					
		152.25	51	3.19	- 27
PROVINCE	(30 survey areas)	557.25 mi^2 (1443.28 km^2)	163	3.06/mi^2 (1.18/km^2)	- 27%

* Population change from 1984 based only on comparable dancing grounds surveyed both years (1984 + 1985).

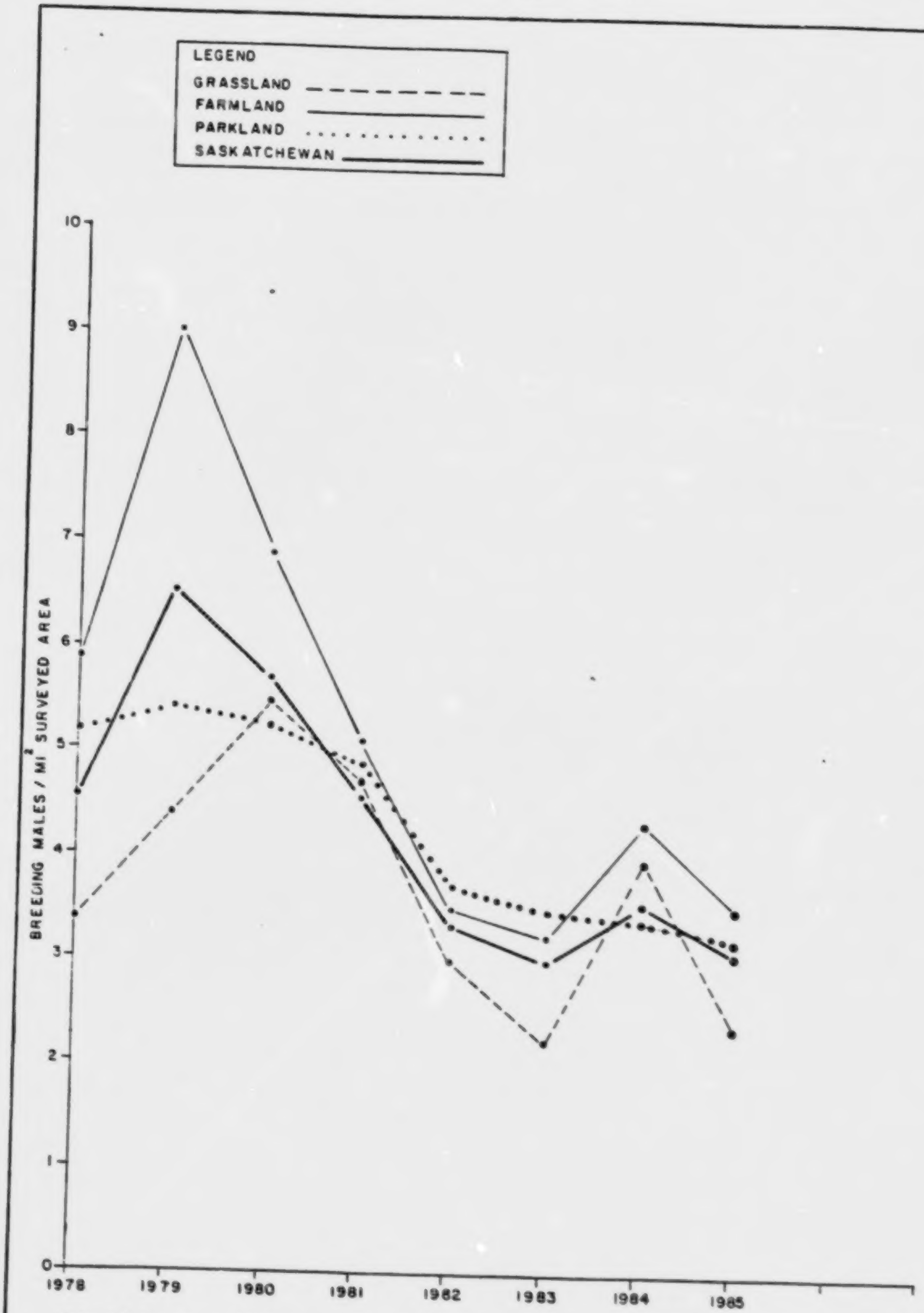


Fig. 13 Sharp-tailed grouse breeding population trends, 1978 - 1985

NOTE: 1984 Survey totals not directly comparable to 1983 due to game management zone changes (See Table 15)

Discussion - Sharp-tailed Grouse

The provincial sharptail decline continued in 1984 and the spring of 1985. Reproduction failed in the Grasslands and Farmlands in the summer of 1984 and 1985 spring surveys show the provincial population down 27% in 18 out of 19 comparable survey blocks.

The continued drought of the 1980's and the harsh winter of 1984-85 in portions of the Farmlands and especially the Parklands have taken their toll on sharp-tailed grouse populations. The lack of grass carryover on most of the native pastures is felt to be one of the prime factors accounting for low reproduction.

Heavy hunting pressure in some island habitat situations may also be impacting local sharptail populations. Continued habitat loss through plowing of native pastures and conversion to cereal crops also accounts for reduction in sharptail numbers.

Since the reduced sharptail populations appear to be a province wide phenomena, Sask. Parks and Renewable Resources recommends a bag limit reduction in 1985 from 5 birds per day to 3 birds per day. The bag limit in Zones 9 - 14 will remain at 3 birds per day. In addition season delays will be imposed in the Parkland Zones (31-47) with a September 30 opening.

1985 Sharp-tailed Grouse Hunting Regulations

Zones 1-47 including Elbow, Estevan-Cambria, Lomond #3 and Last Mountain Lake Wildlife Management Units	Sept. 30 - Nov. 16	3 daily 6 possession
Zones 48-76 including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne Wildlife Management Unit and Bronson Forest Recreation site	Sept. 9 - Nov. 30	3 daily 6 possession

* Non-residents of Canada may not hunt sharp-tailed grouse in Zones 9-14 and 25-28.

HUNGARIAN PARTRIDGE

For the second time in the past decade, the reported Hungarian partridge harvest surpassed the sharp-tailed grouse harvest (Figure 9). About 60,000 partridge were harvested in the fall of 1984 which is only 8% below the 1972-83 average (Tables 16, 17). The number of active partridge hunters decreased 18% to 15,500 but they harvested 3.9 birds per active hunter which is 22% above the 12-year average. Partridge hunters experienced 27% better success per day than in 1983. The chronology of the harvest is given in Figure 11b.

Harvest pressure in terms of birds harvested/km^2 increased in the Grasslands to .31 from .25, decreased slightly in the Farmlands (.34 to .33) and increased in the Parklands (.07 to .10) (Table 18). The Farmlands continued to account for a high proportion of the total harvest (50% compared to 67% in 1983). Hunter success (harvest per hunter day) was better in the Farmlands with 1.66 birds per hunter day versus 1.57 birds per day in the Grasslands (Table 18).

The five top partridge zones in 1984 are listed in Table 19. They are not comparable to 1983 zones due to the changes in wildlife management zones inaugurated in 1984. The harvest/km^2 of total area is comparable and the top 5 zones in 1984 outranked those in 1983 (.62 versus .42).

1984 Hungarian Partridge Reproduction

Provincially the 1984 reproduction index based on samples from the harvest was 2.67 young/adult which is down 17% from the 1983 index of 3.20 (Table 20, Appendix 9). The Grassland index dropped about 10% to 2.13 from 2.37 in 1983. The 1984 Farmland index of 3.42 is slightly above the 1975-83 average of 3.30 young/adult and down only 1% from 1983. The Parkland index of 3.10 is based on a sample size of 78 wings and is probably more reliable than the index of 6.00 reported in 1983.

1985 Hungarian Partridge Breeding Population

Spring surveys of abandoned farmsteads show a provincial index of 0.40 partridge per farmstead (Table 21), down 11% for eleven comparable areas surveyed in 1984. Since the 1984 reproduction index was down about 17% provincially, one would expect a reduction in the 1985 spring population. The cold winter with high wind chill factors and deep snow obviously played a role in reducing the overwintering population of partridge in most Farmland zones (down 51%) and severely reduced populations in the Parklands (down 78%). The only note of optimism is the Grassland index which is essentially unchanged from 1984 (up 2%).

1985 Hunting Regulations - Hungarian Partridge

Zones 1-14 and 19	Sept 23 - Nov 16	10 daily 20 possession
Zones 15-18, 20-26 including Last Mountain Lake Wildlife Management Unit and starting Sept. 30, Elbow, Estevan - Cambria and Lomond #3 Wildlife Management Units	Sept 23 - Nov 16	5 daily 10 possession
Zones 27-55 including Fort a la Corne Wildlife Management Unit	Sept 23 - Nov 16	3 daily 6 possession

* Non-residents of Canada may not hunt Hungarian partridge in Zones 9-14 and 25-28.

Summary

Although the 1985 spring counts are depressed from 1984, hunting is not likely a major contributing factor. The reduced bag limits are proposed in response to the harsh winter of 1984-85.

Hungarian partridge hunting and harvest decreased slightly in 1984 to near the 11-year average. Since the provincial 1985 breeding population is down from 1984 levels, primarily due to the harsh winter, some changes in hunting seasons are proposed.

Table 16. Hungarian Partridge Hunting Data for Saskatchewan,* 1972 - 1984

	Hunting Level			Hunting Success		
Year	Active Hungarian Partridge Hunters	Total Upland Bird Hunter Days Zones 1-22 (1972-83) 1984 Zones 1-55	Hunter Days/ Active Hunter	Hungarian Partridge Harvest	Harvest/ Active Hunter	Harvest/ Upland Hunter Day
1972	23,360	49,692	2.1	77,093	3.3	1.55
1973	20,741	50,827	2.5	74,668	3.6	1.47
1974 **	15,276	33,722	2.2	33,608	2.2	1.00
1975 **	17,356	39,353	2.3	45,125	2.6	1.15
1976 **	22,835	73,458	3.2	90,897	4.0	1.24
1977 **	25,535	78,289	3.1	93,616	3.7	1.20
1978	21,320	58,514	2.7	60,585	2.8	1.04
1979	21,041	59,801	2.8	69,127	3.3	1.16
1980	20,698	61,856	3.0	66,349	3.2	1.07
1981	19,617	57,149	2.9	64,349	3.3	1.13
1982	17,056	43,995	2.6	41,743	2.4	0.95
1983	19,014	54,452	2.9	61,073	3.2	1.12
1972-1983 Average	20,321	55,093	2.7	64,852	3.2	1.17
1984	15,511	42,219*	2.7	59,794	3.9	1.42
% Change						
1984 from 1983	- 18%	- 22%	- 7%	- 2%	+ 22%	+ 27%
1984 from Average	- 24%	- 23%	No change	- 8%	+ 22%	+ 21%

* Forest and Shield Divisions excluded because of insignificance to Hungarian partridge hunting. (No open season).

** Erroneous data was published for these years prior to 1979.

Table 17. Hungarian Partridge Harvest and Hunting Pressure by Wildlife Management Zone 1984.

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	1,621	2.71	288	0.195	2.0	811	374
2	2,399	4.01	731	0.225	1.2	2,039	695
3	104	0.17	60	0.024	1.1	98	34
4	5,241	8.77	1,295	0.646	1.4	3,866	1,405
5	3,828	6.41	775	0.642	1.9	1,994	870
6	603	1.01	167	0.144	1.9	310	133
7	165	0.28	94	0.087	1.4	118	49
8	541	0.91	162	0.159	2.7	198	111
9	1,165	1.95	362	0.339	1.9	614	273
10	1,153	1.93	386	0.325	1.7	681	290
11	749	1.25	249	0.761	1.5	506	183
12	116	0.19	68	0.337	1.4	82	27
13	1,519	2.54	564	0.372	2.1	716	369
14	821	1.37	400	0.147	1.2	684	247
GR	20,024	33.51	5,601	0.309	1.6	12,717	5,061
15	4,168	6.98	853	0.620	1.5	2,728	1,058
16	1,577	2.64	477	0.297	1.8	868	421
17	702	1.18	498	0.184	1.1	670	245
18	1,466	2.45	542	0.197	1.6	929	463
19	5,236	8.76	1,471	0.568	1.6	3,286	1,521
20	1,631	2.73	696	0.295	1.6	1,047	442
21	3,866	6.47	1,512	0.461	1.6	2,375	1,257
22	1,657	2.77	382	0.350	2.5	658	372
23	2,946	4.93	924	0.513	2.1	1,391	756
24	1,642	2.75	596	0.340	1.9	853	446
25	560	0.94	276	0.096	1.9	289	184
26	833	1.39	305	0.189	2.1	405	239
27	393	0.66	189	0.080	1.3	294	120
28	109	0.18	74	0.081	1.5	74	30
29	1,342	2.25	720	0.252	1.2	1,122	476
30	1,702	2.85	821	0.235	1.7	1,020	509
FA	29,832	49.92	10,336	0.328	1.7	18,010	8,537
31	1,114	1.86	302	0.442	1.6	714	340
32	622	1.04	196	0.223	1.7	378	143
33	529	0.89	245	0.136	1.0	534	148
34	498	0.83	233	0.093	0.9	551	123
35	498	0.83	210	0.190	0.9	528	155
36	686	1.15	372	0.132	0.9	755	222
37	1,384	2.32	588	0.122	0.8	1,673	424
38	804	1.34	375	0.125	1.1	732	249
39	570	0.95	272	0.075	0.8	681	157
40	494	0.83	273	0.091	0.6	814	177
41	476	0.80	353	0.066	1.1	449	192
42	285	0.48	262	0.038	0.8	379	93
43	209	0.35	74	0.031	0.6	326	45
44	473	0.79	329	0.103	0.9	555	132
45	430	0.72	252	0.056	0.9	474	126
46	234	0.39	170	0.039	1.4	172	82
47	257	0.43	216	0.045	0.7	352	96
PA	9,561	16.00	4,722	0.097	1.0	10,066	2,904
48	10	0.02	30	0.004	0.0	240	5
49	0	0.00	20	0.000	0.0	65	0
50	0	0.00	70	0.000	0.0	162	0
51	20	0.03	50	0.007	0.2	116	5
52	149	0.25	85	0.051	0.8	182	25
53	48	0.08	54	0.017	0.2	207	29
54	90	0.15	126	0.016	0.3	277	26
55	20	0.03	16	0.005	0.1	178	5
FF	337	0.56	450	0.013	0.2	1,426	95
56	0	0.00	0	0.000	0.0	147	0
57	0	0.00	0	0.000	0.0	35	0
58	0	0.00	0	0.000	0.0	15	0
59	0	0.00	0	0.000	0.0	50	0
60	0	0.00	0	0.000	0.0	55	0
61	0	0.00	0	0.000	0.0	21	0
62	0	0.00	0	0.000	0.0	45	0
63	0	0.00	0	0.000	0.0	265	0
64	0	0.00	0	0.000	0.0	245	0
65	0	0.00	0	0.000	0.0	284	0
66	0	0.00	0	0.000	0.0	129	0
67	0	0.00	0	0.000	0.0	204	0
68	0	0.00	0	0.000	0.0	114	0
69	0	0.00	0	0.000	0.0	179	0
70	0	0.00	0	0.000	0.0	418	0
71	0	0.00	0	0.000	0.0	85	0
72	0	0.00	0	0.000	0.0	85	0
73	0	0.00	0	0.000	0.0	134	0
FO	0	0.00	0	0.000	0.0	2,509	0
74	0	0.00	0	0.000	0.0	20	0
75	0	0.00	0	0.000	0.0	10	0
76	0	0.00	0	0.000	0.0	25	0
NS	0	0.00	0	0.000	0.0	55	0
>>>>>>>>>>>>>>>>>>>>>> T O T A L >>>>>>>>>>>>>>>>>>>>>>	59,755	100.00	21,109	0.008	1.3	44,783	16,596

* Hunter Days are based on all Upland Hunting.
* The Total Active Hunter value is NOT the true Provincial Total.

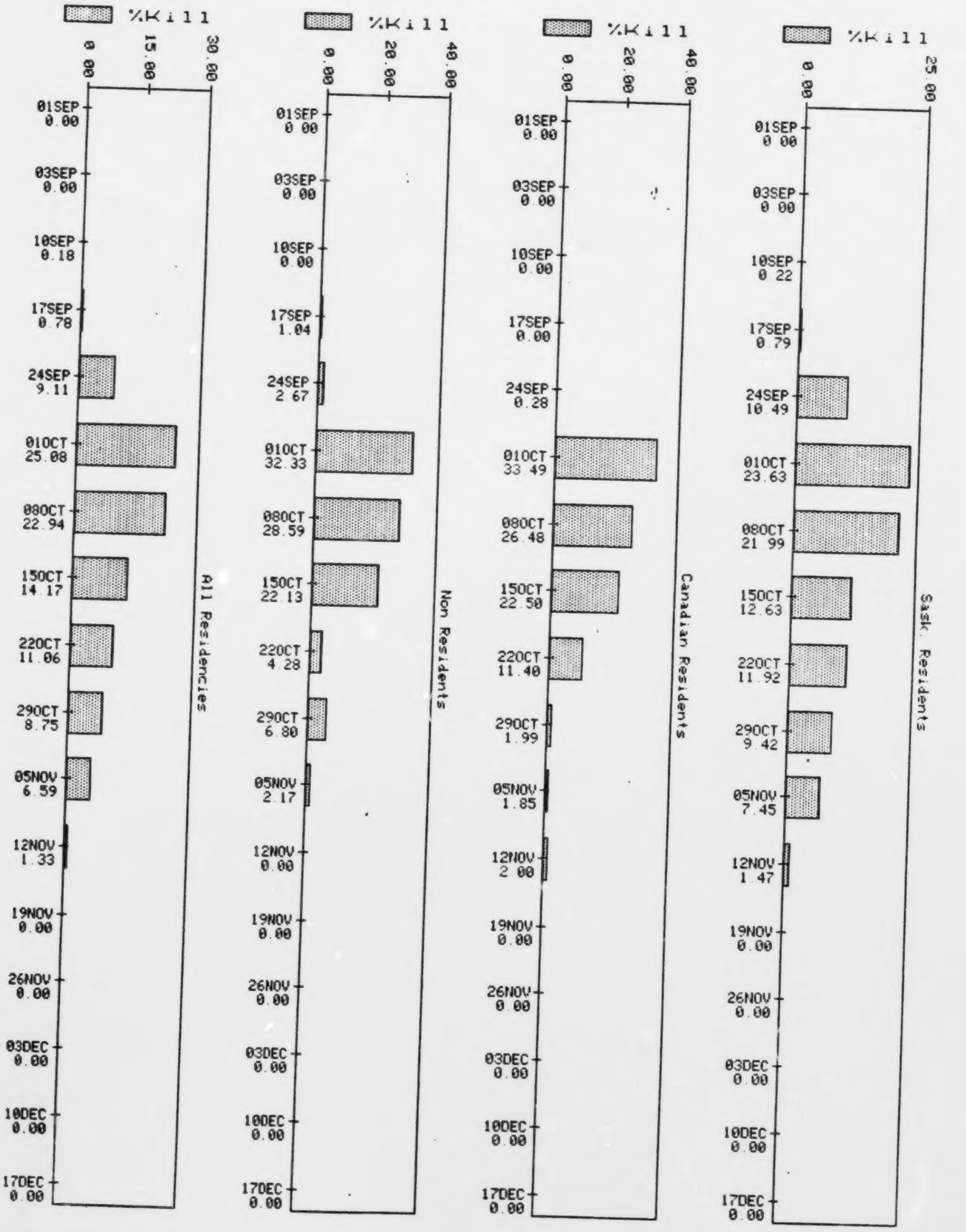


Figure 11b. Saskatchewan 1984 Hungarian Partridge harvest by Weekly Intervals.

Table 18. Hungarian Partridge Hunting Data for Saskatchewan by Wildlife Management Divisions, 1984

	Grassland Zones 1-14	Farmland Zones 15-30	Parkland Zones 31-47	Forest Fringe Zones 48-55	Province*
Harvest (% of Total)	20,024 (33.5%)	29,832 (49.9%)	9,561 (16.0%)	337 (0.6%)	59,754 (100%)
Harvest Pressure (kill/sq km)	0.309	0.328	0.097	0.013	0.213
Upland Bird Hunter Days (% of Total)	12,717 (30.1%)	18,010 (42.7%)	10,066 (23.8%)	1,426 (3.4)	42,219 (100%)
Hunting Pressure (hunter days/ sq km)	0.196	0.198	0.102	0.054	0.151
Hunter Success (kill/hunter day)	1.57	1.66	0.95	0.24	1.42

* Forest and Shield Divisions excluded from hunter days and area (km^2); Hungarian partridge are essentially absent from these areas and no hunting is permitted there.

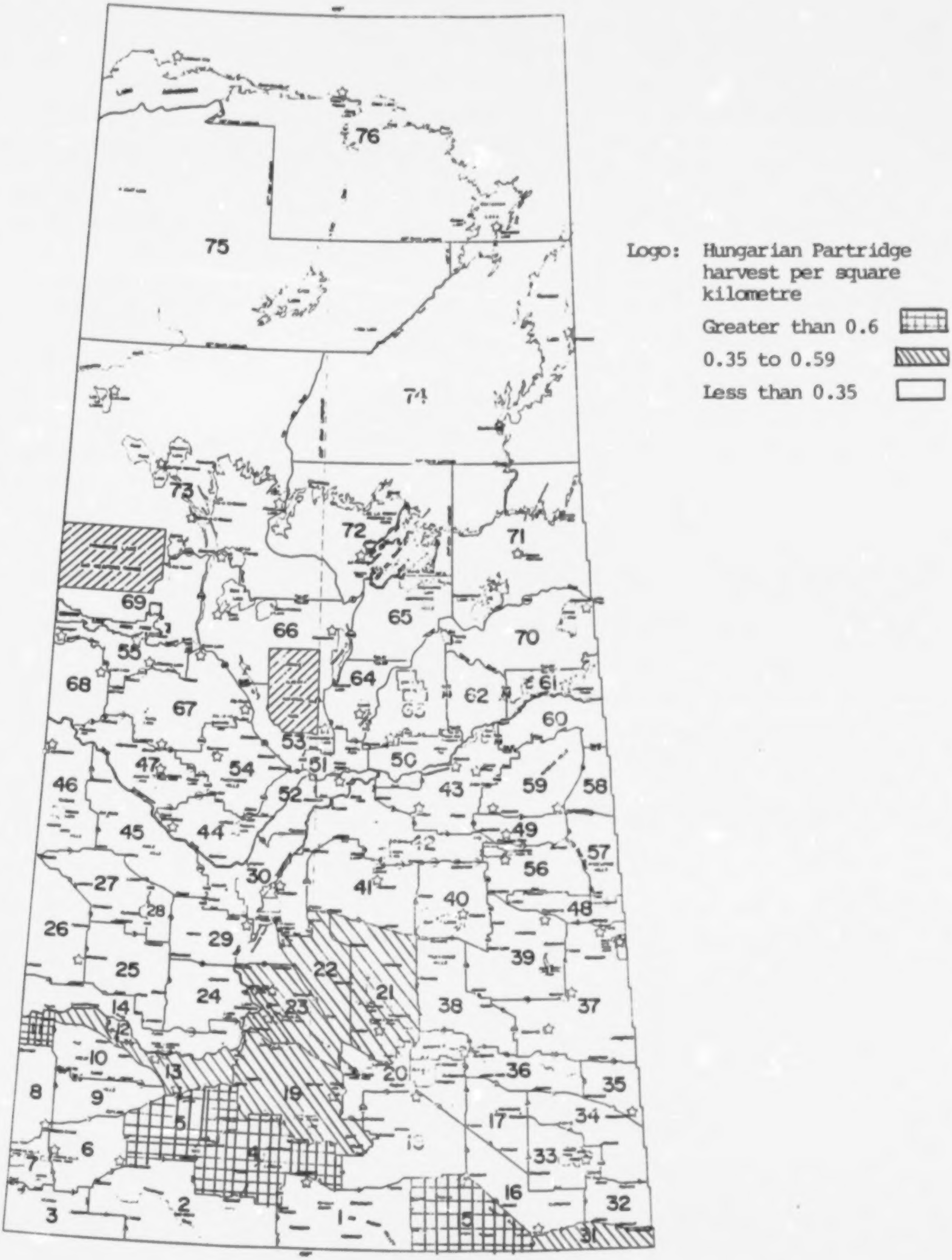
Table 19. Most Important Hungarian Partridge Harvest Areas in Saskatchewan, 1984 and 1983

	1 9 8 4			1 9 8 3			
Rank *	New Wild-life Mgmt. Zone	Kill/ sq km Gross Area	% of Prov. Harvest	Former Game Mgmt. Zone	Kill/ sq km Native Habitat	Kill/ sq km Gross Area	% of Provincial Harvest
1st	11	0.76	1.25%	11	3.36	0.89	7.4%
2nd	4	0.65	8.77	12	2.05	0.46	11.3
3rd	5	0.64	6.41	9	1.85	0.42	11.3
4th	15	0.62	6.98	8	1.85	0.39	13.2
5th	19	0.57	8.76	7	1.35	0.35	9.7
Total	Leading 5 Zones	0.62	32.17%	Leading 5 Zones	1.89	0.42	52.9%

* 1984 data ranked according to harvest density, based on gross area (km^2).

NOTE: 1983 data assumes no reduction in native habitat from 1982.

Figure 14. Saskatchewan Hungarian Partridge Harvest Density 1984.


Logo: Hungarian Partridge harvest per square kilometre
Greater than 0.6 ▦
0.35 to 0.59 ▨
Less than 0.35 ☐
76
75
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72
71
70
69
66
65
55
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Table 20. Hungarian Partridge Reproduction* in Saskatchewan, 1984 vs Historic

(Juvenile/Adult in Harvest)

Wildlife Management Division	1981	1982	1983	1975-83 Average	1984	% Change	
						1984 from 1983	1984 from Average (1975-83)
Grassland	1.38	5.0	2.37	2.74	2.13	- 10%	- 22%
Farmland	1.51	2.9	3.45	3.30	3.42	- 1%	+ 4%
Parkland	—	—	6.00**	—	3.10	- 48%**	Not available
PROVINCE	1.50	3.0	3.20	3.03 3.0***	2.67	- 17%	- 12% - 11%***

* Based on sample of wings from hunter-killed birds.

** Sample size less than 50 wings.

*** 1957-82 Average

Table 21. Hungarian Partridge Breeding Population Survey, Spring 1985

Wildlife Management Zone	Number of Farmsteads Surveyed	Pairs/Farmstead Number	Pairs/Farmstead % Change from 1984
1	15	0.80	—
2	16	1.18	—
4	26	1.03	+ 98
5	10	1.10	- 31
9	15	0.66	—
10	11	0.63	+ 26
13	16	0.62	- 22
GRASSLAND	109	0.86	+ 2%
15	19	0.21	- 40
16	14	0.00	—
18	27	0.22	No birds found in '84
19	20	0.50	—
20	16	0.19	- 24
21	20	0.10	- 85
22	16	0.12	—
23	20	0.40	- 50
24	20	0.15	—
25	15	0.26	- 51
26	15	0.20	- 28
FARMLAND	202	0.22	- 51%
32	20	0.00	—
37	10	0.00	—
38	12	0.08	- 46
PARKLAND	42	0.02	- 78%
PROVINCE	353	0.40	- 11%

PHEASANT

1984 Hunting Activity and Harvest

Saskatchewan pheasant hunters participated in the traditional early and late pheasant seasons in 1984 (Appendix 1, 3e). The 4,975 active pheasant hunters harvested 12,180 cock pheasants which is near the eight-year average (Tables 22, 23; Figure 15). Active hunters decreased by 22% and pheasant hunter days dropped by nearly 50%. Hunting success in terms of cocks harvested per hunter day increased 47% to 2.50 birds per day which is 41% above the 8-year average of 1.77 (Table 22).

Zone 4 was the most important pheasant hunting area (Table 24, Figure 16) providing 34% of the harvest and 35% of pheasant hunter recreation days. Zones 2, 5 and 15, collectively, provided 46% of the harvest. Hunter success was best in Zone 5 with 2.80 cocks harvested per hunter day but Zones 2 and 4 were only marginally less. Less hunters took advantage of the late season, with only 13% of the reported 1984 harvest occurring after November 26 (Figure 17). This compares to about 25% of the harvest occurring after November 7 in 1983. About 44% of the total harvest occurred during the opening week (October 3-8) compared to 34% in 1983.

1985 Breeding Populations - Pheasant

The winter of 1984-85 was relatively hard on pheasant populations due to the cold weather and deep snow. The provincial index has decreased to 1.92 crows heard per survey stop (Table 25, Figure 18). For comparable routes the index has decreased about 38%. From the 1985 surveys it appears the Farmland Zone index has decreased about 28% while populations in the Grasslands have fallen by 41%. The only survey routes showing increases were the Bateman-Coderre route in Zone 4 and the Radville East survey in Zone 15. Due to the apparent poor survival over the winter, the pheasant bag limit has been reduced. Poor reproduction due to the lack of grass carryover from the drought of 1984 may also be responsible for reduced numbers of pheasants. A few hunters commented that they did not see many young birds while hunting in the fall of 1984.

Table 22. Pheasant Hunting Data for Saskatchewan,* 1976-1984

	Hunting Level				Hunting Success	
Year	Active Pheasant Hunters	Pheasant Hunter Days	Pheasant Hunter Days/ Active Hunter	Pheasant Harvest	Pheasants Harvested/ Active Pheasant Hunter	Pheasants Harvested/ Pheasant Hunter Day
1976	4,619	7,421	1.6	14,488	3.1	1.95
1977	5,726	9,718	1.7	19,097	3.3	2.05
1978	4,476	6,107	1.4	10,165	2.3	1.66
1979	3,441	4,390	1.3	7,060	2.1	1.61
1980	4,150	5,876	1.4	11,823	2.8	2.01
1981	4,825	7,052	1.5	12,536	2.6	1.78
1982	3,915	5,772	1.5	7,511	1.9	1.30
1983	6,348	9,313	1.5	15,857	2.5	1.70
1976-1983 Average	4,687	6,956	1.5	12,317	2.7	1.77
1984	4,975	4,870	1.0	12,182	2.4	2.50
% Change						
1984 from 1983	- 22%	- 48%	- 33%	- 23%	- 4%	+ 47%
1984 from Average	+ 6%	- 30%	- 33%	- 1%	- 11%	+ 41%

---

* Prior to 1984 only Game Management Zones 1 to 17 were open for pheasant hunting. For 1984 new WMZ 1 to 36 are open

Table 23. Saskatchewan Pheasant Harvest and Hunting Pressure by Wildlife Management Zone 1984

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	282	2.31	156	0.034	0.4	811	134
2	2,145	17.61	911	0.202	1.1	2,039	782
3	34	0.28	62	0.008	0.4	98	26
4	4,169	34.22	1,542	0.514	1.1	3,866	1,731
5	1,809	14.85	653	0.303	0.9	1,994	647
6	148	1.22	124	0.035	0.5	310	82
7	114	0.93	82	0.060	1.0	118	51
8	108	0.89	94	0.032	0.6	198	43
9	34	0.28	42	0.010	0.1	614	11
10	54	0.44	42	0.015	0.1	681	16
11	346	2.84	219	0.351	0.7	506	115
12	20	0.16	10	0.058	0.2	82	10
13	98	0.81	114	0.024	0.1	716	43
14	494	4.05	353	0.089	0.7	684	173
GR	9,856	80.91	4,405	0.152	0.8	12,717	3,864
15	1,600	13.14	683	0.238	0.6	2,728	702
16	24	0.20	52	0.005	0.0	868	6
17	14	0.12	52	0.004	0.0	670	6
18	192	1.58	156	0.026	0.2	929	84
19	127	1.04	228	0.014	0.0	3,286	55
20	53	0.43	206	0.010	0.1	1,047	29
21	34	0.28	52	0.004	0.0	2,375	6
22	0	0.00	0	0.000	0.0	658	0
23	0	0.00	10	0.000	0.0	1,391	0
24	14	0.12	42	0.003	0.0	853	11
25	0	0.00	0	0.000	0.0	209	0
26	0	0.00	10	0.000	0.0	405	0
27	0	0.00	10	0.000	0.0	294	0
28	0	0.00	0	0.000	0.0	74	0
29	10	0.08	10	0.002	0.0	1,122	10
30	0	0.00	0	0.000	0.0	1,020	0
FA	2,070	16.99	1,512	0.023	0.1	18,010	910
31	198	1.62	94	0.078	0.3	714	62
32	0	0.00	0	0.000	0.0	378	0
33	0	0.00	20	0.000	0.0	534	0
34	0	0.00	10	0.000	0.0	551	0
35	54	0.44	82	0.021	0.1	528	31
36	4	0.04	32	0.001	0.0	755	1
37	0	0.00	0	0.000	0.0	1,673	0
38	0	0.00	0	0.000	0.0	732	0
39	0	0.00	0	0.000	0.0	681	0
40	0	0.00	0	0.000	0.0	814	0
41	0	0.00	0	0.000	0.0	449	0
42	0	0.00	0	0.000	0.0	379	0
43	0	0.00	0	0.000	0.0	326	0
44	0	0.00	0	0.000	0.0	555	0
45	0	0.00	0	0.000	0.0	474	0
46	0	0.00	0	0.000	0.0	172	0
47	0	0.00	0	0.000	0.0	352	0
PA	256	2.10	238	0.003	0.0	10,066	95
48	0	0.00	0	0.000	0.0	240	0
49	0	0.00	0	0.000	0.0	65	0
50	0	0.00	0	0.000	0.0	162	0
51	0	0.00	0	0.000	0.0	116	0
52	0	0.00	0	0.000	0.0	182	0
53	0	0.00	0	0.000	0.0	207	0
54	0	0.00	0	0.000	0.0	277	0
55	0	0.00	0	0.000	0.0	178	0
FF	0	0.00	0	0.000	0.0	1,426	0
56	0	0.00	0	0.000	0.0	147	0
57	0	0.00	0	0.000	0.0	35	0
58	0	0.00	0	0.000	0.0	15	0
59	0	0.00	0	0.000	0.0	50	0
60	0	0.00	0	0.000	0.0	55	0
61	0	0.00	0	0.000	0.0	21	0
62	0	0.00	0	0.000	0.0	45	0
63	0	0.00	0	0.000	0.0	265	0
64	0	0.00	0	0.000	0.0	245	0
65	0	0.00	0	0.000	0.0	284	0
66	0	0.00	0	0.000	0.0	129	0
67	0	0.00	0	0.000	0.0	204	0
68	0	0.00	0	0.000	0.0	114	0
69	0	0.00	0	0.000	0.0	179	0
70	0	0.00	0	0.000	0.0	418	0
71	0	0.00	0	0.000	0.0	85	0
72	0	0.00	0	0.000	0.0	85	0
73	0	0.00	0	0.000	0.0	134	0
FO	0	0.00	0	0.000	0.0	2,509	0
74	0	0.00	0	0.000	0.0	20	0
75	0	0.00	0	0.000	0.0	10	0
76	0	0.00	0	0.000	0.0	25	0
NS	0	0.00	0	0.000	0.0	55	0
>>>>>>>>>>>>>>>>>>>> T O T A L >>>>>>>>>>>>>>>>>>>>>>	12,182	100.00	6,156	0.001	0.3	44,783	4,870

* Hunter Days are based on all Upland Hunting.
* The Total Active Hunter value is NOT the true Provincial Total.

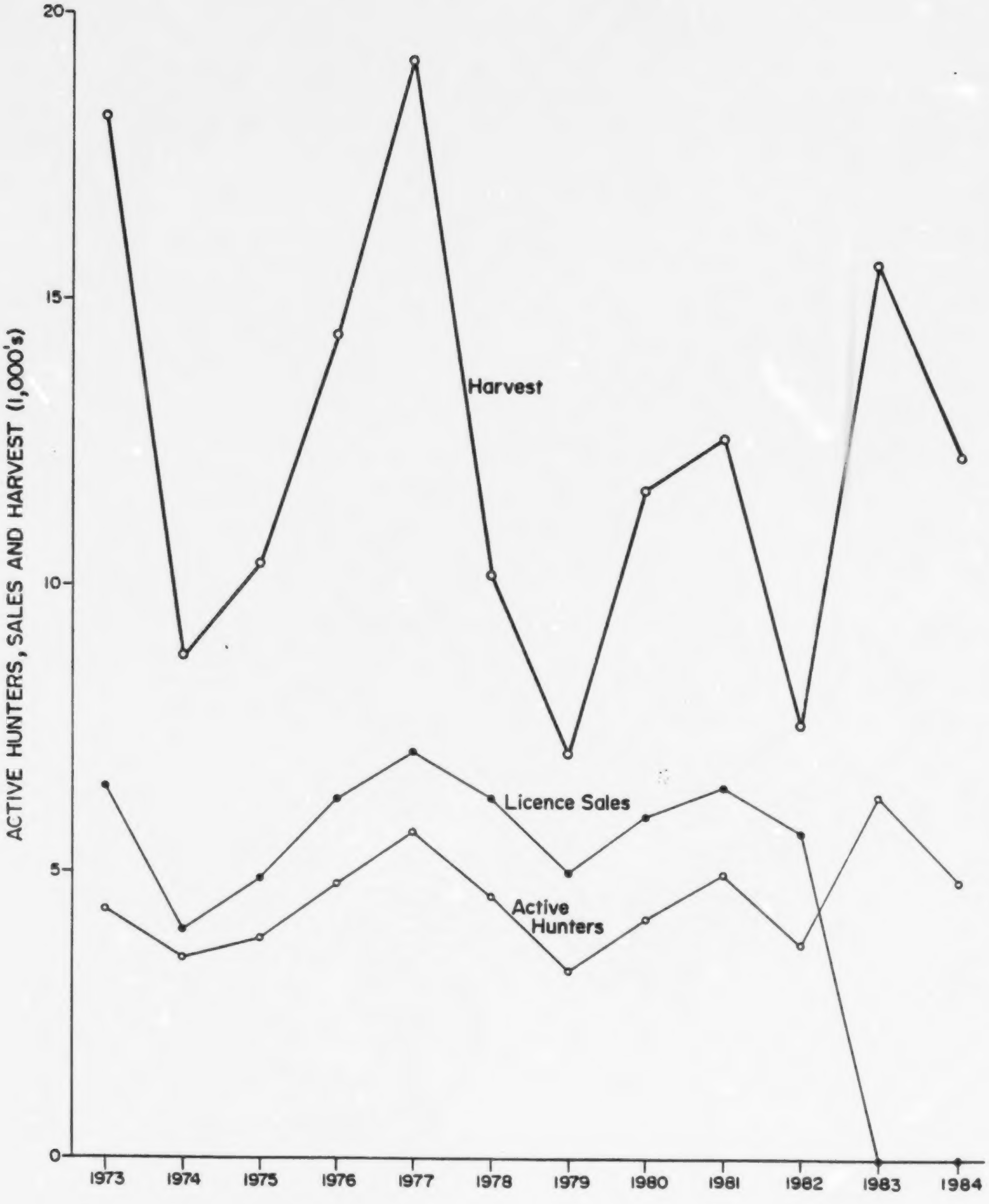


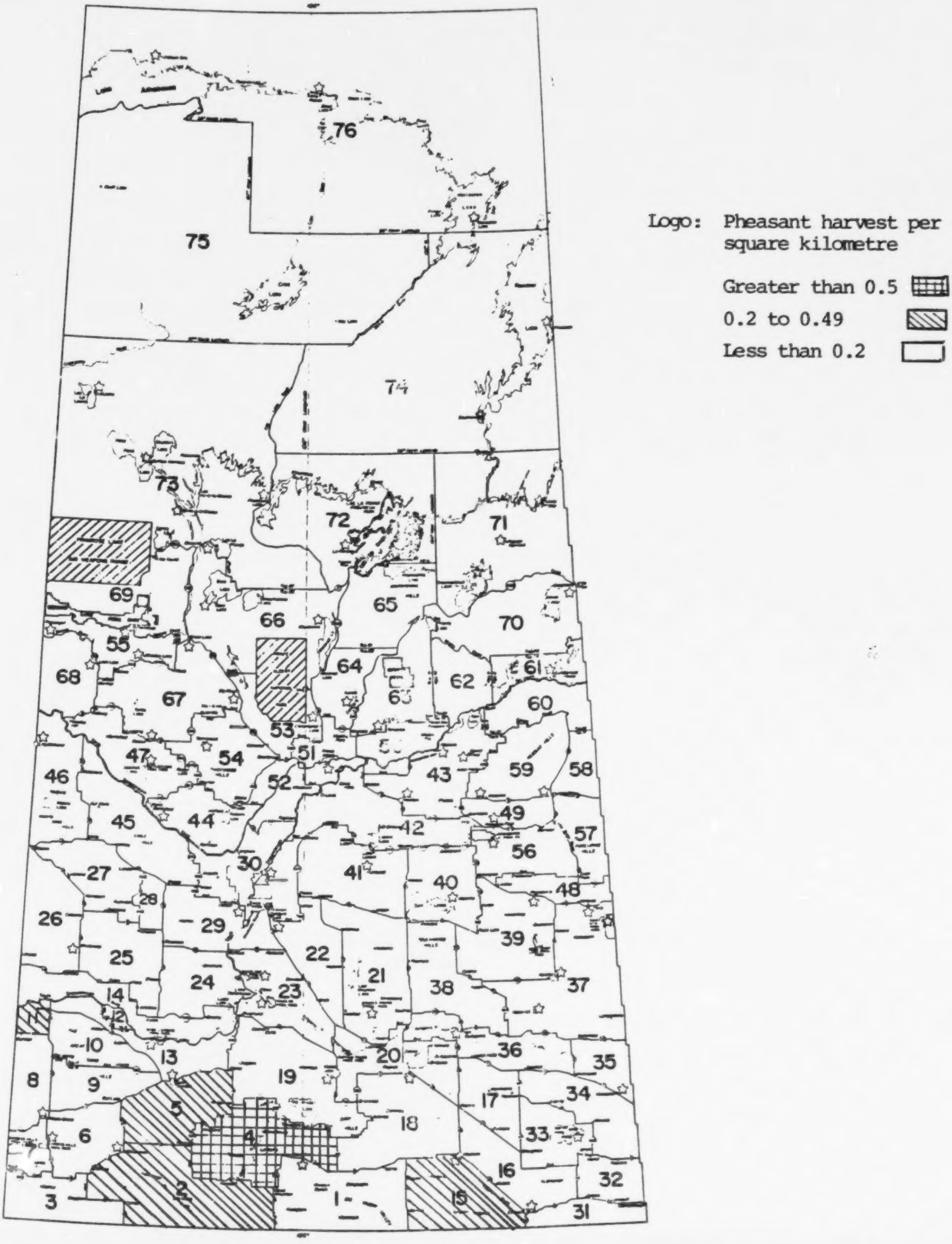
Figure 15. Saskatchewan pheasant licence sales hunting and harvest, 1973-1984. (Separate pheasant licence not required in 1983 or 1984).

Table 24. Important Pheasant Hunting Zones in Saskatchewan,* 1984

	Zone 4	Zone 2	Zone 5	Zone 15	Totals (4 Zones)	Province *
Harvest (% of Total)	4,169 (34%)	2,145 (18%)	1,809 (15%)	1,600 (13%)	9,723 (80%)	12,182 (100%)
Harvest Pressure (kill/sq km)	.514	.202	.303	.238	.31	.07
Pheasant Hunter Days (% of Total)	1,731 (35.5%)	782 (16%)	647 (13%)	702 (13%)	3,862 (79%)	4,870 (100%)
Hunting Pressure (hunter days/ sq km)	.21	.07	.11	.14	.12	.03
Hunter Success (kill/hunter day)	2.41	2.74	2.80	2.28	2.52	2.50

* Province defined as Zones 1-36, the only ones in which a pheasant hunting season is held.

Figure 16. Saskatchewan Pheasant Harvest Density 1984 (Zone 1-36 open only)


Logo: Pheasant harvest per square kilometre
Greater than 0.5 ▦
0.2 to 0.49 ▨
Less than 0.2 ☐
76
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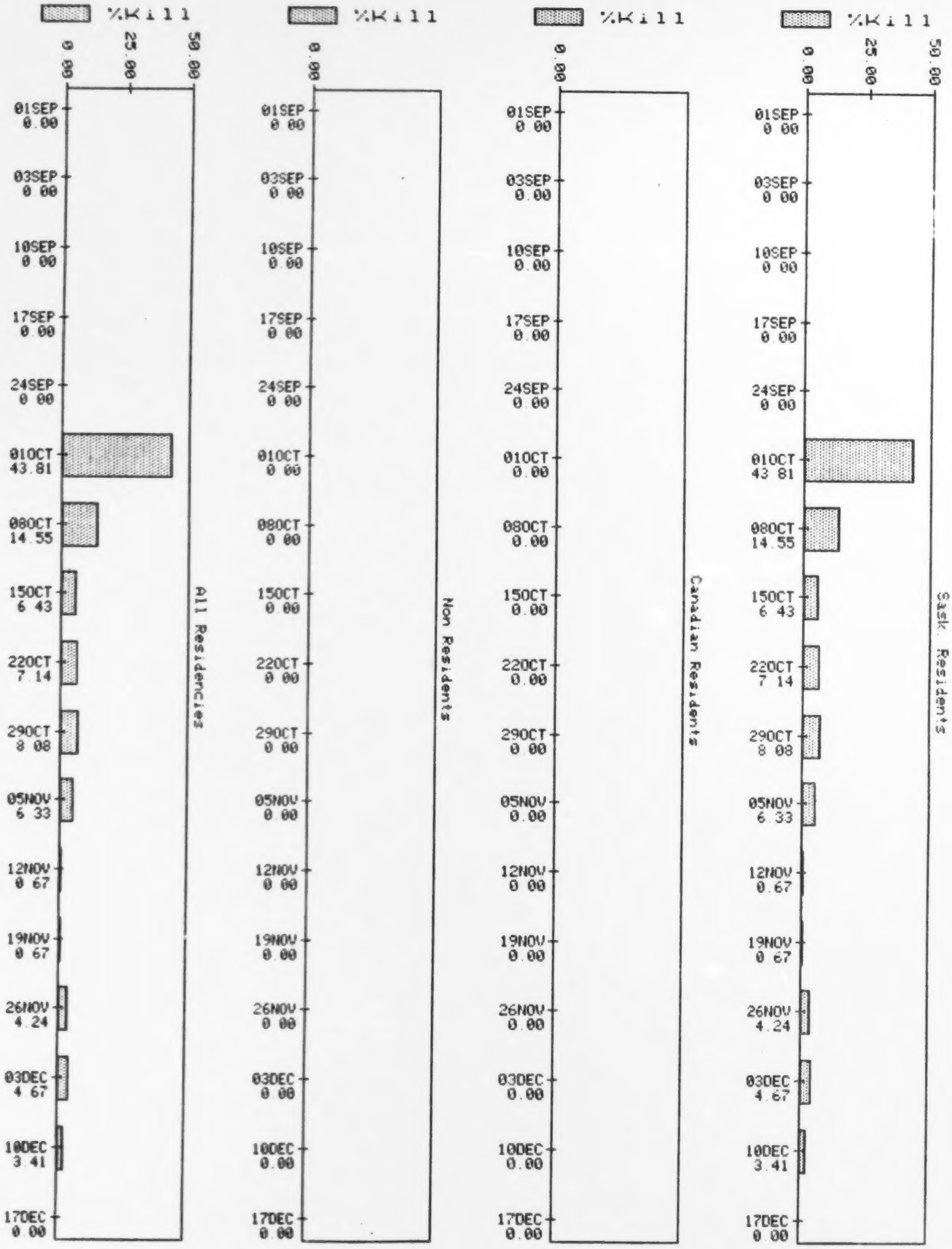

Figure 17. Saskatchewan 1984 pheasant harvest by weekly intervals.

Table 25. Saskatchewan Pheasant Breeding Population Surveys, Spring 1985

Wildlife Management Zone	Survey Area	Survey Stops	Crows Heard/Survey Stop	
			Average Number	% Change from 1984*
2	Val Marie	20	2.90	-68 from 1983
4	Cadillac-Ponteix	18	1.11	-71 from 1982
4	Pinto Creek	20	0.90	- 68
4	Notekeu Creek	20	1.25	- 67
4	Bateman-Coderre	20	2.65	+ 6
5	Swift Current-Duncairn	20	1.05	- 8
6	Eastend	20	1.45	-60 from 1983
8	Maple Creek North	15	3.46	- 41
14	Estuary-Chesterfield	20	3.05	- 27
14	Snakebite	20	1.70	- 51
GRASSLAND		193	1.91	- 41%
15	Radville East	20	1.55	+ 18
20	Moose Jaw South	20	2.40	- 42
FARMLAND		40	1.97	- 28%
PROVINCE	(12 survey areas)	233	1.92	- 38%

* Based on comparable areas surveyed in both 1984 and 1985.

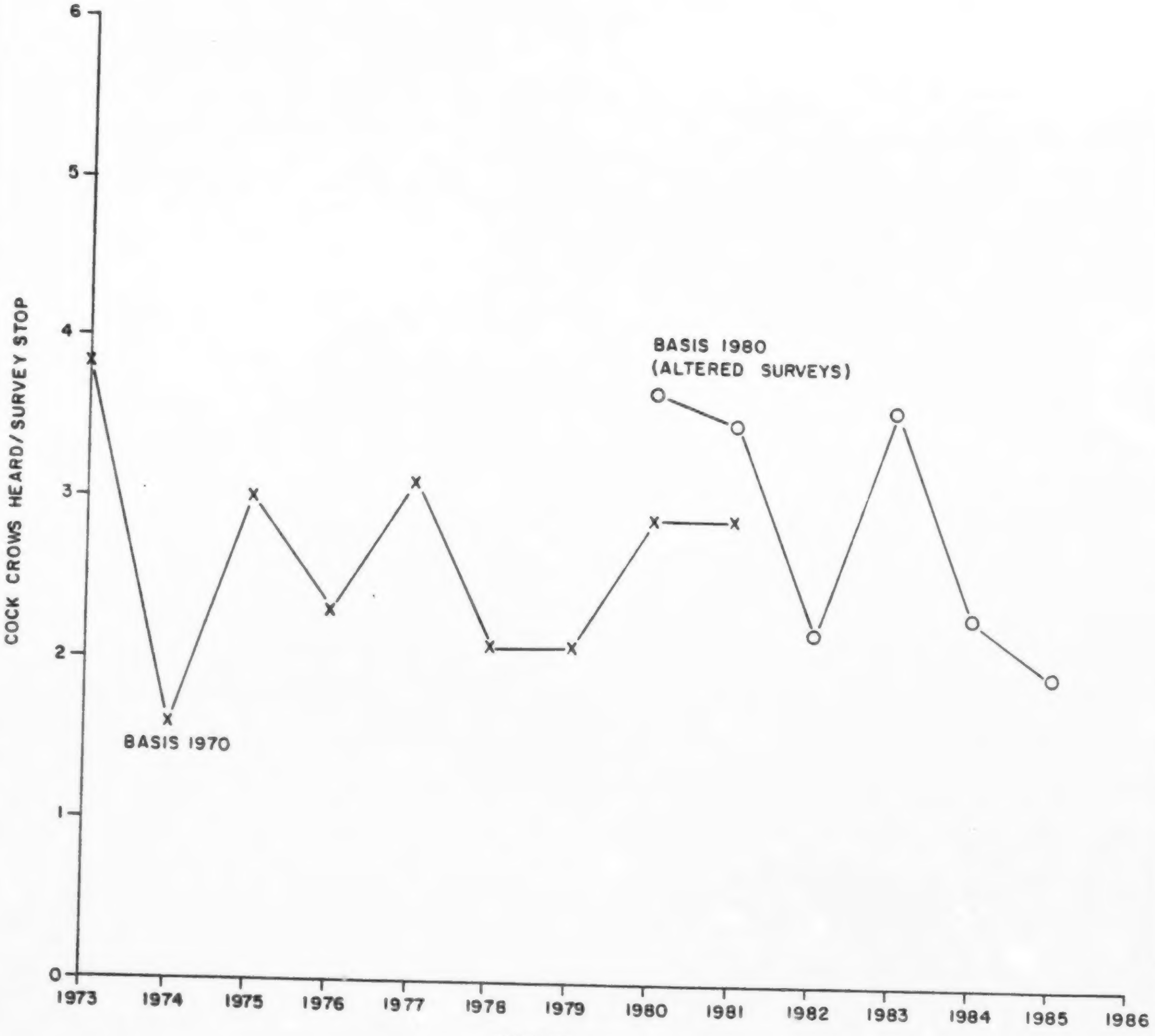

Figure 18. Saskatchewan Pheasant Spring Breeding Population Index 1973-1985

NOTE: 1984 Survey Index Not Directly Comparable To 1983 Due To Non-Comparable Survey Routes.

1985 Pheasant Hunting Regulations *

Zones 1-36 including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Oct 2 - Nov 16	3 daily 6 possession
Zones 1-24, 29, 31, 35, and 36 including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Dec 2 - Dec 21	3 daily 6 possession

* Sask. Residents Only.

The 1985 regulations are essentially unchanged from those of 1984 except for the reduction in bag limit and the extention of the late season into Zones 21, 22, and 29. The early season has been extended to November 16 to allow more hunter recreation prior to the opening of white-tailed deer hunting season. The late season has been altered so that no overlap with regular white-tailed deer season occurs.

The analysis of the vehicle restriction proposal outlined in 1983 for portions of the pheasant range indicated that some posted land would be opened to walk-in pheasant hunters if vehicles were restricted. Rather than institute vehicle restrictions, SPRR prefers to urge hunters to seek permission to hunt and to walk for pheasants and to have affected landowners post their land with the conditional access signs provided free-of-charge by the department.

Summary

The 1984 pheasant harvest was only 1% below the 8 year average. Active hunters and recreation days were reduced in 1984 due to perceived lower populations and an early winter. The 1985 spring breeding index is down significantly from 1984, enough to warrant changing bag limits. The 1984-85 winter and droughts since 1981 have contributed to reduced pheasant populations. Season dates have been adjusted to allow hunting up to the opening of white-tailed deer season along with a traditional 3 week late pheasant season.

RUFFED GROUSE

1984 Hunting Activity and Harvest

In spring 1983, it was thought that ruffed grouse had reached their lowest ebb in the apparent 10-year cycle of the population. Hunter harvest continued to decline in 1984, however, with the harvest dropping to 13,000 birds, the lowest since 1973 when only 12,700 birds were harvested (Tables 26, 27).

Only 6,700 active ruffed grouse hunters pursued their quarry in response to the very low population levels. Hunting success however was up 27% from 1983 but remained 50% below the 1972-83 average of 3.8 birds per active hunter. Harvest pressure (kill/km^2) was heaviest in the Forest Fringe zones with .08 birds harvested/km^2 of area (1 bird for every 13 km^2). The Parkland zones accounted for 42% of the provincial harvest and 27% came from the Forest zones. Harvest/km^2 is depicted in Figure 19. The chronology of the ruffed grouse harvest is shown in Figure 11c.

Zone 33 (Moose Mountain Park and area) ranked first in terms of ruffed grouse harvested/km^2 of gross area (Table 29). Most of the harvest came from Zone 37 (8.2%) but this large zone did not place in the top 5 for high harvest density.

1984 Reproduction - Ruffed Grouse

The 1984 provincial index for reproduction is 1.97 juveniles per adult based on a sample of 205 birds from the 1984 harvest (Table 30, Appendix 10). This is 6% below the 1979-83 average of 2.10. The Parkland index of 1.75 juveniles per adult is 24% below 1983 levels indicating a possible lag in recovery behind Forest populations. Greater numbers of wing samples might help fill in some of the voids in this data base.

1985 Ruffed Grouse Breeding Population

Spring drumming surveys indicate generally better populations with significant recovery in Zones 56-69 where the index is up 68% for comparable survey routes (Table 31). The provincial breeding index of 1.10 drums heard per survey stop is up 32% for comparable surveys. A new survey in the Gibbs area of Zone 21 (.6 drums per stop) indicates a ruffed grouse population equivalent to some zones in the Forest management division.

Table 26. Ruffed Grouse Hunting Data for Saskatchewan, 1972-1984

	Hunting Level			Hunting Success		
Year	Active Ruffed Grouse Hunters	Total All Upland Bird Hunter Days	All Hunter Days/ Active Ruffed Grouse Hunter	Ruffed Grouse Harvest	Ruffed Grouse Harvested/Active Ruffed Grouse Hunter	Ruffed Grouse Harvested/ Total Upland Hunter Days
1972	11,057	56,534	5.1	29,853	2.7	0.5
1973	9,102	53,275	5.9	12,743	1.4	0.2
1974 *	7,477	37,801	5.1	14,205	1.9	0.4
1975 *	12,091	48,161	4.0	36,274	3.0	0.8
1976 *	14,782	86,525	5.9	83,805	5.7	1.0
1977 *	17,757	93,496	5.3	94,353	5.3	1.0
1978	17,042	72,380	4.2	94,203	5.5	1.3
1979	17,545	72,096	4.1	86,309	4.9	1.2
1980	18,363	75,578	4.1	91,514	5.0	1.2
1981	14,466	68,989	4.8	36,711	2.5	0.5
1982	10,215	50,382	4.9	16,886	1.7	0.3
1983	8,754	60,146	6.9	13,523	1.5	0.2
1972-1983 Average	13,221	64,613	5.0	50,865	3.8	0.75
1984	6,706	44,854	6.7	12,974	1.9	0.29
% Change						
1984 from 1983	- 23%	- 25%	- 3%	- 4%	+ 27%	+ 32%
1984 from Average	- 49%	- 31%	+ 34%	- 74%	- 50%	- 61%

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* Data for these years was erroneous prior to 1979 correction.

Table 27. Ruffed Grouse Harvest and Hunting Pressure by Wildlife Management Zone 1984.

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	40	0.31	30	0.005	0.1	811	5
2	0	0.00	10	0.000	0.0	2,039	0
3	0	0.00	0	0.000	0.0	98	0
4	155	1.19	57	0.019	0.0	3,866	55
5	29	0.22	40	0.005	0.0	1,994	12
6	0	0.00	0	0.000	0.0	310	0
7	0	0.00	0	0.000	0.0	118	0
8	0	0.00	6	0.000	0.0	198	0
9	5	0.04	23	0.001	0.0	614	4
10	52	0.40	34	0.015	0.1	601	9
11	30	0.23	20	0.030	0.1	506	10
12	0	0.00	10	0.000	0.0	82	0
13	73	0.57	40	0.018	0.1	716	26
14	66	0.51	48	0.012	0.1	689	22
GR	449	3.46	326	0.007	0.0	12,717	143
15	107	0.82	49	0.016	0.0	2,728	27
16	0	0.00	20	0.000	0.0	868	0
17	137	1.06	132	0.036	0.2	670	74
18	95	0.73	67	0.013	0.1	929	34
19	274	2.11	82	0.030	0.1	3,286	72
20	287	2.21	214	0.052	0.3	1,047	105
21	482	3.71	404	0.057	0.2	2,375	219
22	0	0.00	20	0.000	0.0	658	0
23	16	0.12	53	0.003	0.0	1,391	12
24	28	0.22	40	0.006	0.0	853	9
25	20	0.15	10	0.003	0.1	289	5
26	0	0.00	20	0.000	0.0	405	0
27	9	0.07	24	0.002	0.0	294	4
28	0	0.00	0	0.000	0.0	74	0
29	86	0.66	93	0.016	0.1	1,122	37
30	71	0.55	150	0.010	0.1	1,020	29
FA	1,612	12.42	1,379	0.018	0.1	18,010	627
31	10	0.08	20	0.004	0.0	714	5
32	136	1.04	83	0.049	0.4	378	42
33	596	4.60	181	0.154	1.1	534	172
34	170	1.31	155	0.032	0.3	551	79
35	118	0.91	209	0.045	0.2	528	65
36	266	2.05	283	0.051	0.4	755	139
37	1,063	8.19	579	0.094	0.6	1,673	467
38	554	4.27	222	0.086	0.8	732	174
39	839	6.47	406	0.110	1.2	681	202
40	272	2.10	192	0.050	0.3	814	115
41	108	0.84	89	0.015	0.2	449	39
42	293	2.26	280	0.040	0.8	379	123
43	252	1.95	191	0.037	0.8	326	97
44	203	1.57	200	0.044	0.4	555	93
45	171	1.31	179	0.022	0.4	474	78
46	62	0.48	93	0.010	0.4	172	29
47	328	2.53	278	0.057	0.9	352	141
PA	5,441	41.94	3,640	0.055	0.5	10,066	2,057
48	380	2.93	156	0.150	1.6	240	118
49	106	0.81	53	0.044	1.6	65	57
50	172	1.32	176	0.051	1.1	162	78
51	188	1.45	219	0.065	1.6	116	75
52	100	0.77	123	0.034	0.6	182	42
53	424	3.27	179	0.153	2.1	207	113
54	257	1.98	228	0.045	0.9	277	85
55	359	2.77	143	0.096	2.0	178	91
FF	1,986	15.31	1,276	0.076	1.4	1,426	659
56	232	1.79	156	0.049	1.6	147	84
57	36	0.28	53	0.011	1.0	35	17
58	30	0.23	20	0.013	2.0	15	10
59	76	0.58	73	0.013	1.5	50	37
60	126	0.97	43	0.033	2.3	55	22
61	11	0.09	26	0.004	0.5	21	6
62	76	0.58	43	0.020	1.7	45	27
63	191	1.48	146	0.034	0.7	265	58
64	281	2.17	146	0.079	1.2	245	98
65	301	2.32	126	0.046	1.1	284	118
66	195	1.50	103	0.017	1.5	129	66
67	387	2.99	273	0.045	1.9	204	124
68	325	2.50	113	0.078	2.8	114	91
69	325	2.50	83	0.042	1.8	179	86
70	534	4.11	107	0.063	1.3	418	191
71	139	1.07	20	0.008	1.7	85	40
72	36	0.28	63	0.002	0.4	85	12
73	185	1.43	73	0.004	1.4	134	52
FO	3,486	26.87	1,664	0.021	1.4	2,509	1,137
74	0	0.00	10	0.000	0.0	20	0
75	0	0.00	0	0.000	0.0	10	0
76	0	0.00	0	0.000	0.0	25	0
MS	0	0.00	10	0.000	0.0	55	0
>>>>>>>>>>>>>>>>>>>>> T O T A L >>>>>>>>>>>>>>>>>>>>>>	12,974	100.00	8,295	0.002	0.3	44,783	4,624

* Hunter Days are based on all Upland Hunting.

* The Total Active Hunter value is NOT the true Provincial Total.

Table 28. Ruffed Grouse Hunting Data for Saskatchewan by Wildlife Management Divisions, 1984*

	Grassland Zones 1-14	Farmland Zones 15-30	Parkland Zones 31-47	Forest Fringe Zones 48-55	Forest Zones 56-73	Province* Zones 1-73
Ruffed Grouse Harvest (% of Total)	449 (3.5%)	1,612 (12.4%)	5,441 (42%)	1,986 (15%)	3,486 (27%)	12,974 (100%)
Harvest Pressure (kill/sq km.)	.007	.018	.055	.076	.021	.029
All Upland Bird Hunter Days	12,717	18,010	10,066	1,426	2,509	44,728
(% of Total)	(28%)	(40%)	(22%)	(3%)	(6%)	99.9%
Species Hunter Days (% of Total)	143 (3%)	627 (13%)	2,057 (44%)	659 (14%)	1,137 (25%)	4,624 (100%)
Hunter Pressure (hunter days/sq km)	.196	.198	.102	.054	.015	.10
Hunter Success (kill/hunter day)	.035	.09	0.54	1.39	1.39	0.29

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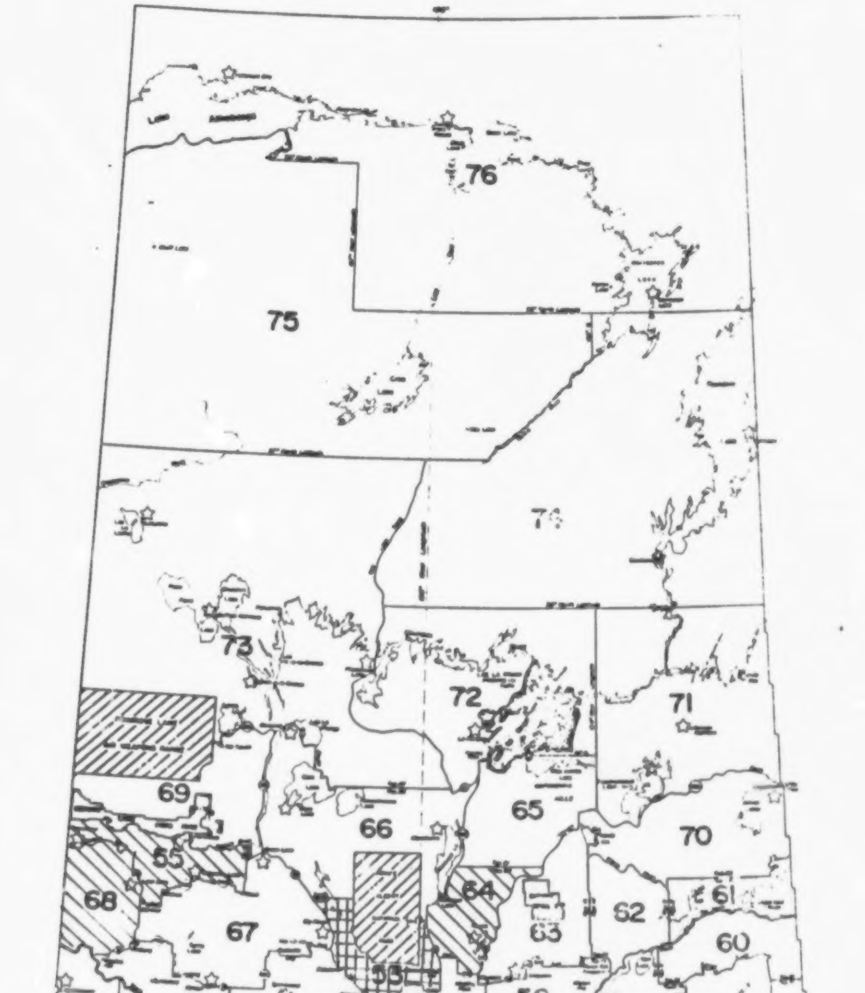
* Northern Shield Division Zones 74-76 excluded because of insignificance to ruffed grouse hunting (No harvest).

Figure 19. Saskatchewan Ruffed Grouse Harvest Density 1984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Logo: Ruffed Grouse harvest per square kilometre

Greater than 0.15	▦
.075 to .149	▨
Less than .075	☐

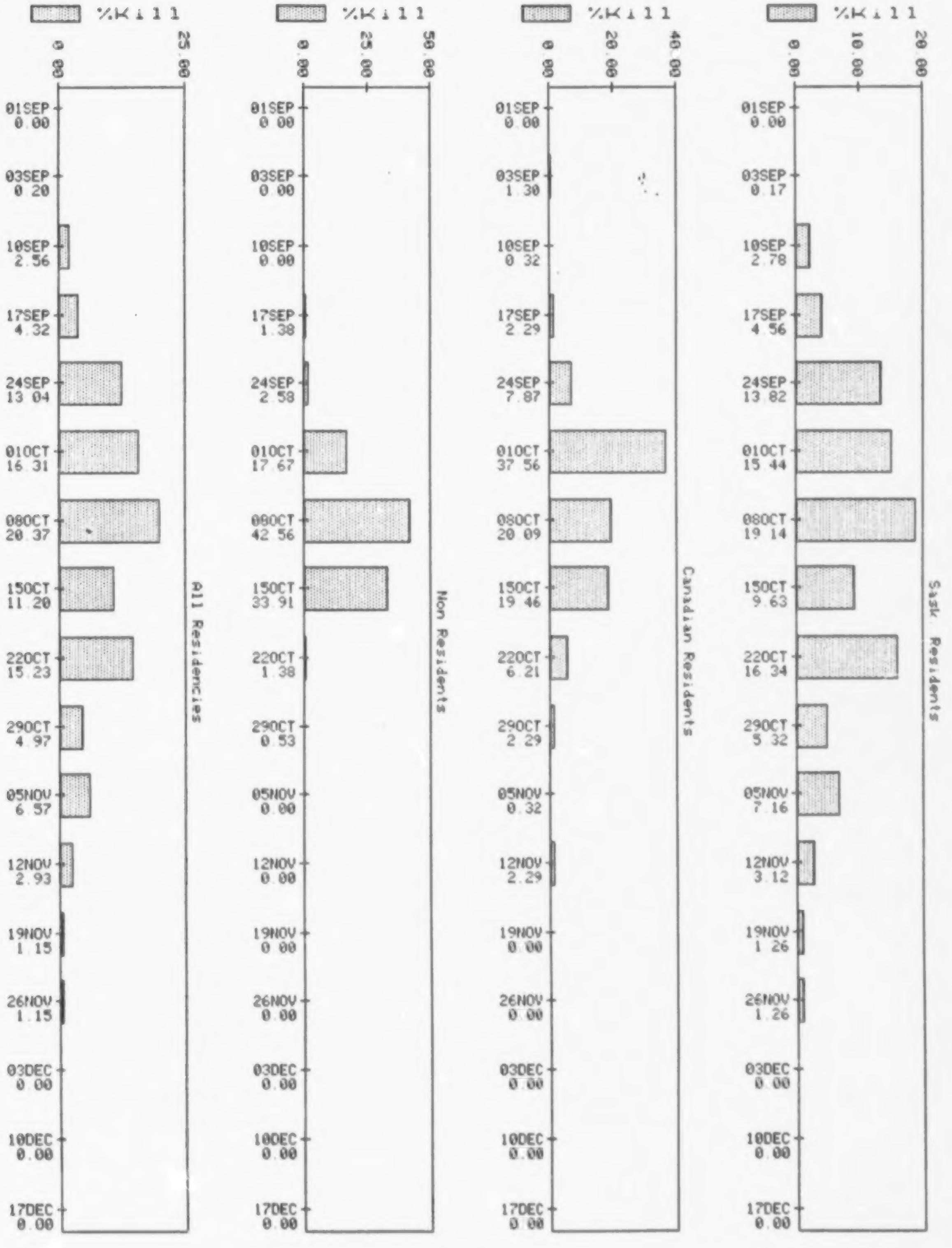

Figure 11c. Ruffed grouse harvest by weekly period 1984.

Table 29. Most Important Ruffed Grouse Harvest Areas in Saskatchewan, 1984 and 1983

	1984			1983			
Rank *	Wildlife Mgmt. Zone	Ruffed Grouse Harvest/ Sq km Gross Area	% of Provincial Harvest	Former Game Mgmt. Zone	Ruffed Grouse Harvest/ Sq km Native Habitat	Ruffed Grouse Harvest/ Sq km Gross Area	% of Provincial Harvest
1st	33	.154	4.6	11	.46	.13	4.8
2nd	53	.153	3.3	19	.50	.11	11.5
3rd	48	.150	2.9	17	.39	.11	5.7
4th	39	.110	6.5	16	.31	.09	8.8
5th	55	.096	2.8	23	.12 **	.08	7.8
Total	Leading 5 Zones	.126	20.0%	Leading 5 Zones	.27	.10	38.6%

* Ranked according to harvest density based on gross area in km^2; native habitat areas not yet available for new Wildlife Management Zones.

** Based on rough estimate of native habitat in Zone; Terrestrial Habitat Inventory not yet complete.

NOTE: 1983 data assumes no reduction in native habitat from 1982.

Table 30. Ruffed Grouse Reproduction in Saskatchewan, 1984 vs Recent Past
(Based on wing samples from 1984 harvest)

(Juvenile/Adult in Harvest)

Wildlife Management Division	1981	1982	1983	1979-83 Average	1984	% Change 1984 from 1983	 1984 from Average (1979-1983)
Farmland	1.2	1.2	1.14*	1.35	1.90*	+ 67%	+ 41%
Parkland	3.1	2.4	2.29	2.30	1.75	- 24%	- 24%
Forest Fringe					3.16*		
Forest	2.8	3.8	4.80	3.20	1.93	- 34%**	- 1%**
PROVINCE	2.3	1.9	2.51	2.10	1.97	- 21%	- 6%

** 1984 Forest Fringe data compared to former Commercial Forest for % change calculations.

* Sample of less than 50 wings.

Table 31. Saskatchewan Ruffed Grouse Breeding Population Surveys, Spring 1985

Wildlife Management Zone	Survey Area	Survey Stops	Drums Heard/Survey Stop Average Number	Drums Heard/Survey Stop % Change from 1984*
21	Bulyea	18	0.61	New Survey
FARMLAND	(1 survey area)	18	0.61	
33	Moose Mountain	20	0.40	
36	Ellisboro	20	0.35	
37	Duck Mountain	20	1.50	
37	Parkerview	20	0.05	
39	Margo South	18	1.61	
42	Barrier	20	1.95	New Survey
45	Lizzard Lake	20	0.00	
46	Battle River-Freemont	23	1.60	
47	Sandwith	15	0.26	New Survey
PARKLAND	(9 survey areas)	176	0.94	+ 8%
48	Usherville	20	0.25	New Survey
50	Fort a la Corne	17	1.05	- 25%
53	Tote Road	20	2.15	New Survey
55	St. Cyr Lake	30	0.83	New Survey
FOREST FRINGE	(4 survey areas)	87	1.05	- 25%
56	Greenwater	15	0.87	+ 40%
56	McBride Lake	15	1.40	
57	Ridge Road	15	0.33	
57	Woody Road South	17	0.65	
59	Fir River Road	20	0.85	
60	Squaw Rapids East	20	0.95	
64	Snowfield Pulp Road	20	3.90	
67	Boundary Road	20	0.55	New Survey
68	Loon Lake	20	1.30	
69	Mistohay	20	0.80	
FOREST	(10 survey areas)	182	1.19	+ 68%
PROVINCE	(24 survey areas)	463	1.10	+ 32%

* Based on survey areas surveyed in both 1984 and 1985.

The Parkland (Zones 31-47) has not exhibited much of an increase (8%) and the Fort a la Corne route (now classed as Forest Fringe) is down 25% to 1.05 drums per stop from 1.4 drums per stop in 1984. The Parkland, Forest Fringe and Forest indices are presently indicating about one male per survey stop.

Figure 20 exhibits how hunter harvest followed the classical increase and crash of the ruffed grouse population over the last 11 years and substantiates the legendary 10-year cycle in ruffed grouse numbers. Populations have started to show signs of building this year. Hunters should see improvement in numbers of ruffed grouse for the fall of 1985. Since populations are only in the initial building stages, similar seasons and bag limits are in place for 1985. The season has been extended to November 16 in Zones 1-47 to offer more hunter recreation prior to the white-tailed deer season.

1985 Ruffed Grouse Hunting Regulations

No significant season changes are proposed for 1985. Populations are in a state of recovery from an 11-year low. In the Grasslands, Farmlands and Parklands the season opening coincides with the Hungarian partridge opening date. In keeping with ruffed grouse seasons overlapping the big game seasons in the Forest and Shield, hunting season dates will be Sept 9 - Nov 30. Only the initial 2 weeks of the bear season, the first week of the early moose season in Zones 70-76, and the late elk season are not encompassed by these dates.

Zones 1-47 including Last Mountain Lake and Elbow Wildlife Management Units; and Moose Mountain and Duck Mountain Provincial Parks	Sept 23 - Nov 16	5 daily 10 possession
Zones 48-76 including Fort a la Corne Wildlife Management Unit; Greenwater, Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; and Bronson Forest Recreation Site	Sept 9 - Nov. 30	5 daily 10 possession

Summary - Ruffed Grouse

The 1984 ruffed grouse harvest bottomed out at an 11-year low. 1985 spring surveys show improvement in the populations in the Forest and Parkland zones. The Parkland populations may exhibit a one or two year lag in synchrony with the cycle in Forest populations. No changes are proposed in bag limits. Season dates have been extended by one week in the south to allow more recreation prior to the white-tailed deer season.

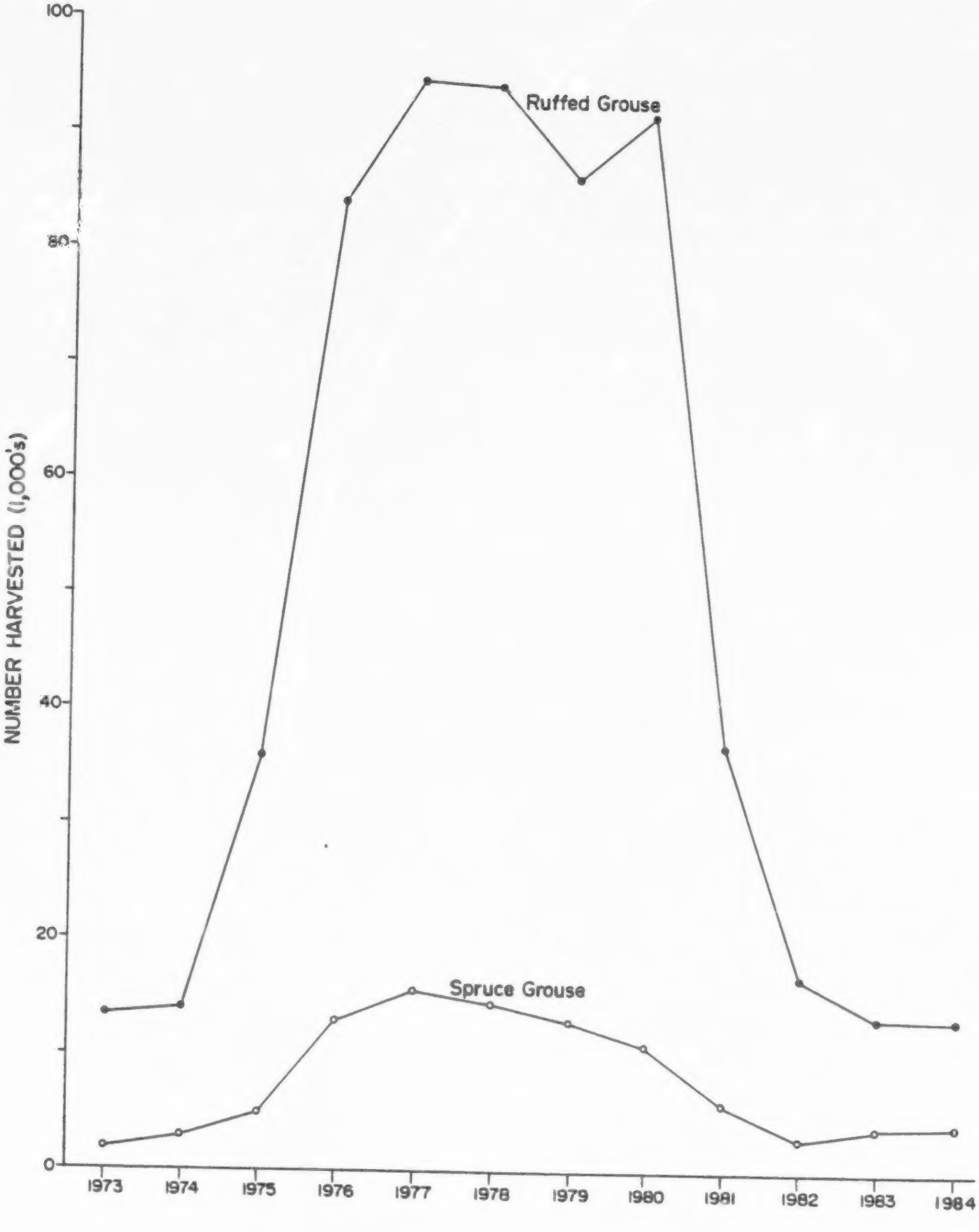

Figure 20. Saskatchewan Ruffed and Spruce Grouse harvest, 1973-1984

SPRUCE GROUSE

The 1984 spruce grouse harvest of 4,350 birds, was up 10% from 1983, and was the second consecutive increase in the harvest since 1976. 1,025 of 1,537 active hunters were successful and 1,340 recreation days were provided. Zones 63 and 70 accounted for 26% of the harvest. Spring surveys and wing collections are not conducted for spruce grouse.

Table 32 outlines spruce grouse hunting activity and harvest in 1984 while Figure 11d outlines the chronology of the harvest by weekly intervals.

1985 Spruce Grouse Hunting Regulations

Zone 43	Sept 23 - Nov. 16	5 daily 10 possession
Zones 48-76 including Fort a la Corne Wildlife Management Unit; Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; and Bronson Forest Recreation Site	Sept 9 - Nov 30	5 daily 10 possession

To reduce confusion, the season opening date for Zone 43, the only Parkland Zone open for spruce grouse hunting, coincides with the ruffed grouse season in that zone. Sharp-tailed grouse season is delayed to September 30, 1985 in Zone 43 and all other Parkland zones (31-47). The spruce grouse season in Zone 43 will close November 16 in 1985 to coincide with the closure of ruffed grouse and sharp-tailed grouse seasons in that zone. Bag limits remain the same at five birds per day.

Table 32. Saskatchewan Spruce Grouse Harvest and Hunting Pressure by Wildlife Management Zone 1984.

WMZ	Total Kill	% of Harvest	Active Hunters per WMZ	Kill per sq.Km.	Kill per Day	Total Hunter Days	Species Hunter Days
1	0	0.00	0	0.000	0.0	811	0
2	0	0.00	0	0.000	0.0	2,039	0
3	0	0.00	0	0.000	0.0	98	0
4	0	0.00	0	0.000	0.0	3,866	0
5	0	0.00	0	0.000	0.0	1,994	0
6	0	0.00	0	0.000	0.0	310	0
7	0	0.00	0	0.000	0.0	118	0
8	0	0.00	0	0.000	0.0	198	0
9	0	0.00	0	0.000	0.0	614	0
10	0	0.00	0	0.000	0.0	681	0
11	0	0.00	0	0.000	0.0	506	0
12	0	0.00	0	0.000	0.0	82	0
13	0	0.00	0	0.000	0.0	716	0
14	0	0.00	0	0.000	0.0	684	0
GR	0	0.00	0	0.000	0.0	12,717	0
15	0	0.00	0	0.000	0.0	2,728	0
16	0	0.00	0	0.000	0.0	868	0
17	0	0.00	0	0.000	0.0	670	0
18	0	0.00	0	0.000	0.0	929	0
19	0	0.00	0	0.000	0.0	3,286	0
20	0	0.00	0	0.000	0.0	1,047	0
21	0	0.00	0	0.000	0.0	2,375	0
22	0	0.00	0	0.000	0.0	658	0
23	0	0.00	0	0.000	0.0	1,391	0
24	0	0.00	0	0.000	0.0	853	0
25	0	0.00	0	0.000	0.0	289	0
26	0	0.00	0	0.000	0.0	405	0
27	0	0.00	0	0.000	0.0	294	0
28	0	0.00	0	0.000	0.0	74	0
29	0	0.00	0	0.000	0.0	1,122	0
30	0	0.00	0	0.000	0.0	1,020	0
FA	0	0.00	0	0.000	0.0	18,010	0
31	0	0.00	0	0.000	0.0	714	0
32	0	0.00	0	0.000	0.0	378	0
33	0	0.00	0	0.000	0.0	534	0
34	0	0.00	0	0.000	0.0	551	0
35	0	0.00	0	0.000	0.0	528	0
36	0	0.00	0	0.000	0.0	755	0
37	0	0.00	0	0.000	0.0	1,673	0
38	0	0.00	0	0.000	0.0	732	0
39	0	0.00	0	0.000	0.0	681	0
40	0	0.00	0	0.000	0.0	814	0
41	0	0.00	0	0.000	0.0	449	0
42	0	0.00	0	0.000	0.0	379	0
43	167	3.83	104	0.025	0.5	326	75
44	0	0.00	0	0.000	0.0	555	0
45	0	0.00	0	0.000	0.0	474	0
46	0	0.00	0	0.000	0.0	172	0
47	0	0.00	0	0.000	0.0	352	0
PA	167	3.83	104	0.002	0.0	10,066	75
48	63	1.45	21	0.025	0.3	240	16
49	0	0.00	0	0.000	0.0	65	0
50	140	3.22	115	0.042	0.9	162	56
51	44	1.01	84	0.015	0.4	116	9
52	60	1.38	63	0.021	0.3	182	28
53	97	2.23	95	0.035	0.5	207	30
54	40	0.93	53	0.007	0.2	277	8
55	71	1.63	88	0.019	0.4	178	25
FF	516	11.85	518	0.020	0.4	1,426	171
56	7	0.16	32	0.001	0.1	147	2
57	17	0.39	32	0.005	0.5	35	12
58	3	0.08	11	0.002	0.2	15	1
59	20	0.47	53	0.003	0.4	50	13
60	130	2.98	53	0.034	2.4	55	23
61	23	0.54	11	0.008	1.1	21	11
62	97	2.22	42	0.026	2.2	45	22
63	559	12.84	168	0.099	2.1	265	178
64	386	8.87	157	0.109	1.6	245	122
65	369	8.48	125	0.057	1.3	284	170
66	167	3.83	104	0.015	1.3	129	60
67	130	2.99	125	0.015	0.6	204	26
68	3	0.08	11	0.001	0.0	114	1
69	153	3.52	84	0.020	0.9	179	64
70	575	13.20	95	0.068	1.4	418	154
71	73	1.68	11	0.004	0.9	85	31
72	312	7.18	74	0.017	3.7	85	54
73	346	7.94	104	0.008	2.6	134	90
FO	3,371	77.46	1,292	0.020	1.3	2,509	1,033
74	73	1.68	11	0.002	3.7	20	21
75	23	0.54	21	0.000	2.4	10	11
76	202	4.65	11	0.003	8.1	25	26
NS	299	6.87	43	0.002	5.5	55	58
>>>>>>>>>>>>>>>>>>>>> T O T A L >>>>>>>>>>>>>>>>>>>>>	4,352	100.00	1,957	0.000	0.1	44,783	1,336

* Hunter Days are based on all Upland Hunting.
* The Total Active Hunter value is NOT the true Provincial Total.

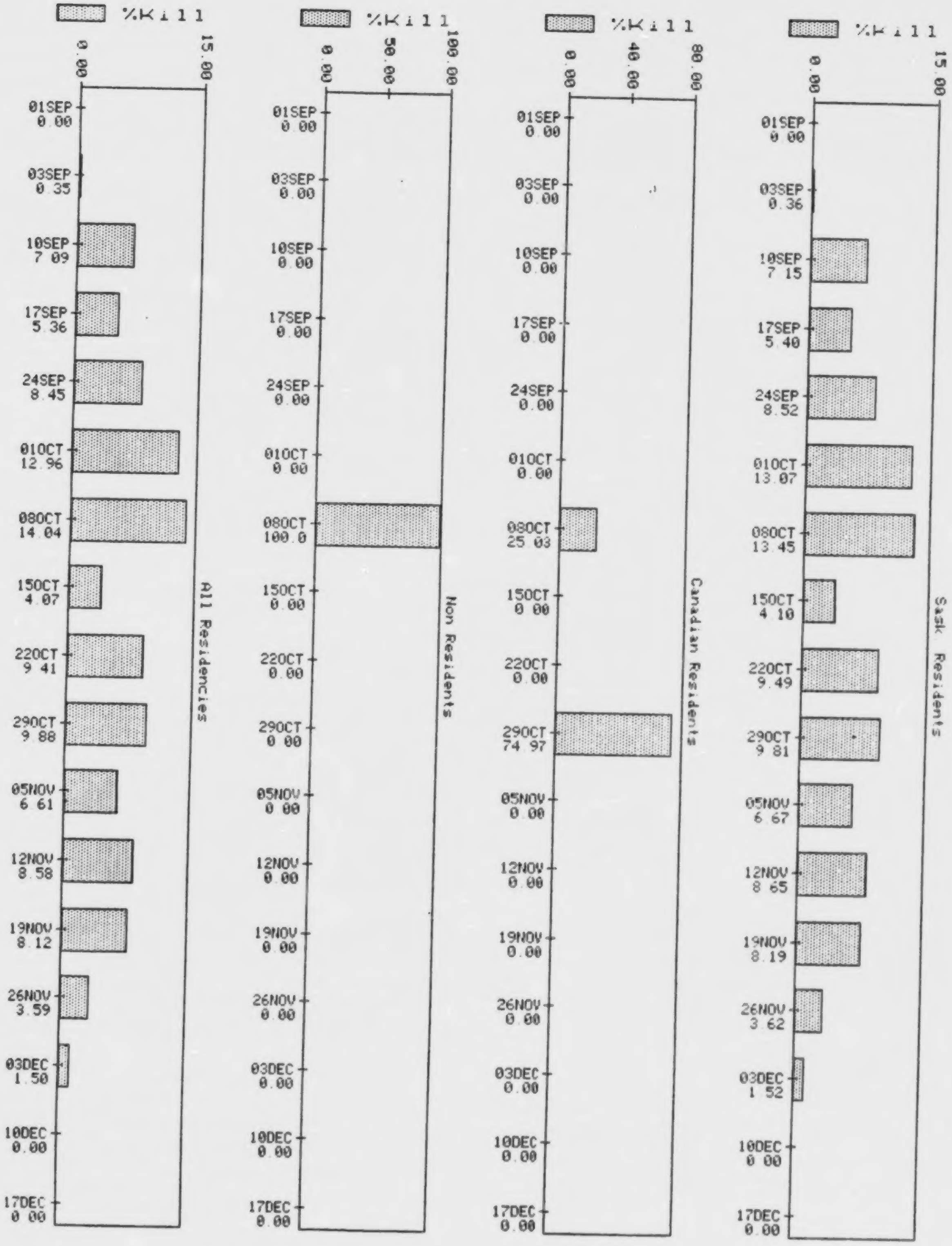

Figure 11d. Saskatchewan 1984 spruce grouse harvest by weekly intervals.

PTARMIGAN

Little new information is available on recent ptarmigan distribution, numbers or utilization by sport hunters. Migrations are known to occur into the Deschambault Lake area and into the White Lake area off the Reindeer River. Most of the ptarmigan range is relatively inaccessible and utilization is opportunistic by big game hunters and trappers. The 1985 hunter questionnaire will ask hunters to indicate if they hunt ptarmigan to get some idea of the utilization of this resource.

Some northern residents have expressed the desire for a later closing date because ptarmigan are rarely observed until after late December.

1985 Ptarmigan Hunting Regulations

Zones 61-66, 69-76 including Lac la Ronge Provincial Park	Nov 4 - Feb 1/86	10 daily 20 possession

BIG GAME

GENERAL

1984 HUNTING REGULATIONS

Hunting season dates, bag limits and licence quotas per big game species are presented in Appendix 13.

All mule deer and antelope licences, plus special moose and elk licences, were available through a computerized draw (Appendix 14). As in previous years resident hunters could purchase a bull/calf moose licence and an antlered elk licence if they were not successful in the special licence draw for these species. Two hundred and twenty guided moose licences were also sold to Saskatchewan non-residents.

Hunters were allowed to purchase two white-tailed deer licences in most Commercial Forest Zones.

DATA COLLECTION TECHNIQUES

Licence Sales

Department of Parks and Renewable Resources, Revenue Section, tabulated and mailed computerized draw licences directly to hunters.

White-tailed deer, woodland caribou, black bear, regular moose and regular elk licences are purchased through approximately 1,200 commercial vendors and S.P.R.R. district offices distributed throughout the province. Vendors return sold and unsold licences to S.P.R.R. Revenue who are then able to determine provincial licence sale figures for each big game species.

Hunter Survey

In October 1984, 29,440 resident, 506 Canadian resident and a small sample of non-resident alien hunters were mailed big game questionnaires (Appendix 15). These hunters were randomly selected from among the 1983 big game regular licence holders and the 1984 computerized draw licence holders.

Approximately 24,189 follow-up questionnaires were mailed January 2, 1985 to hunters that did not reply to the first questionnaire. The cut-off date for return of questionnaires was February 15, 1985. The forms returned were edited and the data entered into a computer. The data print-out was available for analysis by February 27, 1985.

Checking Stations

All hunters using designated check stations for big game in Saskatchewan were eligible to enter a draw for major prizes. All hunters providing biological samples received a Wildlife Co-operator Lapel Pin.

Two S.P.R.R. checking stations were used along with 10 private co-operator collection points to obtain age and sex information for moose and elk. Age determinations for animals older than calves were based on tooth (incisor) cementum deposition.

S.P.R.R. Wildlife staff operated two white-tailed deer check stations during the regular deer season to gather sex and age harvest data.

Antlerless mule deer harvest information was obtained at five locations operated by Department personnel. A checkstation was also manned during both splits of the regular, either-sex season in WMZ 12.

Population Surveys

Aerial surveys are conducted during the winter months to determine population levels, herd segregation and productivity information for selected moose, white-tailed deer, mule deer and elk populations. January and February white-tailed deer population estimates were obtained using a stratified random block survey design. Moose line-transect surveys and stratified random block surveys were employed to provide trend and population data, respectively, for winter moose populations. Trend data on antelope populations were obtained from July line-transect aerial surveys. Mule deer population quadrat and line transect surveys were conducted within selected areas to document population status in major southwestern habitat blocks.

Sex and age structure estimates for moose, elk, white-tailed deer, mule deer and antelope were based on data collected by aerial sampling of selected populations. The number of males, females, and young of the year provided information on population structures.

A white-tailed deer population structure study was conducted on all big game species with the assistance of Conservation Officers and Saskatchewan Wildlife Federation members (Appendix 16). Co-operators classified observed animals by sex (adult male vs adult female) and age (fawn vs adult) class, and provided detailed information on antler development of males.

Wildlife Management Zones

The new wildlife management zone (WMZ) map introduced in 1984 is the standard reference throughout this report (Appendix 17). For obvious reasons, direct comparisons between these zones and the former game management zones should not be made.

WHITE-TAILED DEER

A. REVIEW OF 1984 HUNTING SEASON

1. Licence Sales

	1980	1981	1982	1983*	1984*
1st Licence Sales					
Resident	64 339	63 543	57 320	50 309	49 603
Canadian Resident	974	1 316	1 095	607	705
Non-Resident	80	124	68	68	60
2nd Licence Sales					
Resident		6 757	6 433	4 594	4 971
Canadian Resident		49	41	19	9
Non-Resident			21	0	6
TOTAL	65 393	71 810	64 957	55 600	55 356
Resident Archery	1 004	1 376	1 590	1 411	1 543
Muzzleloading			368	575	684

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*Final (June 1) sales figures; however all data analysis based on figures available in March.

2. Harvest

- Estimated 52 116 active rifle, archery and muzzleloader hunters.
- Harvest increased 18% to approximately 39 000 (Table 33, Figure 21).
- Harvest higher in all ecozones except Forest and Farmland which were slightly lower than 1983.
- Harvest of 6 110 white-tailed deer from Grassland (including 104 by muzzleloader hunters and 55 by archers) was 56% above 1983 level and 46% above 5 year average in a one week season. Harvest was heaviest in WMZ 1, 2, 4, 6 and 14 (Table 34).
- Farmland harvest was concentrated in the southeast (WMZ 15, 16), north of Regina (WMZ 21) and around Saskatoon (WMZ 29, 30) (Table 35).

Table 33. Provincial White-tailed Deer Harvest 1979-1984

Ecological	Harvest						Percent Hunter Success					
Division	1979	1980	1981	1982	1983	1984	1979	1980	1981	1982	1983	1984
Grassland	5,035	3,524	4,224	4,243	3,893	6,110	56	62	56	61	61	83
Farmland	12,692	10,830	13,263	11,897	12,629	11,287	53	55	53	44	55	78
Parkland	13,089	17,376	15,109	13,047	11,255	13,608	56	63	55	52	57	78
Forest Fringe	—	—	—	—	—	2,145	—	—	—	—	—	67
Commercial Forest	6,363	11,024	8,553	7,029	5,797	5,669	44	40	—	—	—	59
1st Licence Holder	—	—	5,912	4,615	3,938	3,077	—	—	38	33	33	57
2nd Licence Holder	—	—	2,641	2,414	1,859	2,592	—	—	43	45	46	62
Total	37,179	42,754	41,149	36,216	33,574	38,820	52	60	50	47	53	75

Figure 21 Saskatchewan White-Tailed Deer Sport Hunter Harvest, Recreation Days and Effort 1970-84.

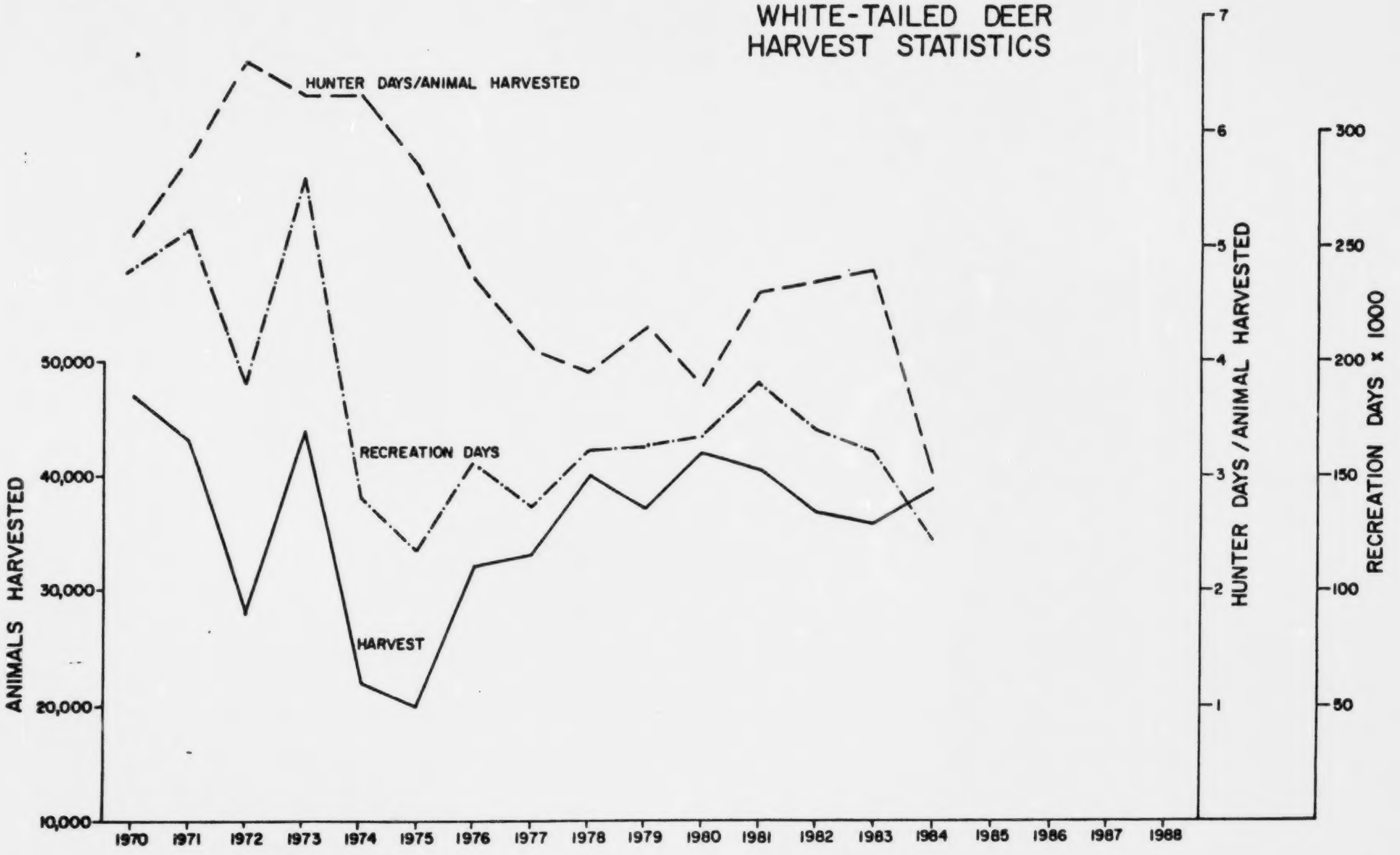

Table 34. Grassland Regular Deer Harvest - 1984

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
1	827	895	758	91.7	758	4.52	1	0.26	1,524	2	0.1831
2	853	923	792	92.8	792	5.84	1	0.47	1,387	2	0.1303
3	95	103	80	84.2	80	3.67	1	0.00	154	2	0.0358
4	727	787	627	86.3	627	2.59	1	0.21	942	2	0.1160
5	564	610	462	81.9	462	3.75	1	0.31	756	2	0.1268
6	938	1,015	821	87.5	821	3.72	1	0.24	1,461	2	0.3483
7	147	160	125	85.0	125	4.25	1	0.25	188	1	0.0990
8	158	171	125	79.4	125	3.00	1	0.40	160	1	0.0470
9	522	564	365	70.0	365	5.00	1	0.40	828	2	0.2410
10	411	445	336	81.9	336	3.67	1	0.25	599	2	0.1690
11	179	194	154	85.9	154	2.37	1	0.00	258	2	0.2622
12	111	120	80	72.1	80	3.33	1	0.33	140	2	0.4060
13	500	542	422	84.3	422	3.50	1	0.13	660	2	0.1615
14	975	1,055	804	82.5	804	2.17	1	0.35	1,417	2	0.2540
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	7,006	7,581	5,951	84.9	5,951	3.53	1	0.28	10,472	2	0.1616

Table 35. Farmland Regular Deer Harvest - 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FARMLAND

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
15	1,025	1,248	1,037	100.0	1,037	3.09	1	0.14	1,785	2	0.2654
16	1,283	1,562	1,174	91.5	1,174	2.28	1	0.28	2,215	2	0.4173
17	754	918	633	84.0	633	1.66	1	0.26	1,241	2	0.3246
18	969	1,180	889	91.8	889	2.09	1	0.23	1,512	2	0.2030
19	1,002	1,220	849	84.8	849	2.35	1	0.12	1,953	2	0.2118
20	585	713	371	63.3	371	1.48	1	0.35	1,211	3	0.2189
21	1,372	1,670	1,157	84.4	1,157	1.46	1	0.36	3,165	3	0.3776
22	702	855	564	80.4	564	2.14	1	0.39	1,385	2	0.2927
23	786	958	627	79.7	627	2.52	1	0.28	1,837	3	0.3200
24	585	713	439	75.0	439	2.94	1	0.33	979	2	0.2028
25	365	445	325	89.0	325	2.60	1	0.20	572	2	0.0984
26	220	268	177	80.3	177	1.31	1	0.08	360	2	0.0798
27	295	359	205	69.6	205	1.62	1	0.15	604	3	0.1230
28	393	479	302	76.8	302	2.06	1	0.25	1,007	3	0.7434
29	1,367	1,664	901	65.9	901	1.86	1	0.30	2,926	3	0.5487
30	1,826	2,223	1,265	69.3	1,265	1.16	1	0.42	3,955	3	0.5454
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	13,529	16,474	10,916	80.7	10,916	1.95	1	0.28	26,708	2	0.2937

Table 36. Parkland Regular Deer Harvest - 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: PARKLAND

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
31	1,009	1,197	952	94.4	952	2.65	1	0.52	1,943	2	0.7703
32	2,090	2,480	2,041	97.6	2,041	1.59	1	0.34	3,544	2	1.2704
33	1,350	1,602	1,174	87.0	1,174	3.00	1	0.38	2,296	2	0.5912
34	1,355	1,607	1,277	94.2	1,277	2.27	1	0.23	2,957	2	0.5490
35	764	906	633	82.8	633	1.35	1	0.23	1,575	2	0.6025
36	538	638	405	75.2	405	2.32	1	0.42	989	2	0.1907
37	1,254	1,488	832	66.4	832	47.33	1	0.33	3,235	4	0.2859
38	495	587	365	73.7	365	1.33	1	0.04	1,170	3	0.1825
39	1,110	1,317	855	77.0	855	1.54	1	0.35	2,551	3	0.3356
40	375	445	217	57.8	217	1.75	1	0.42	674	3	0.1245
41	946	1,123	633	66.9	633	1.00	1	0.31	2,091	3	0.2899
42	822	975	559	68.0	559	2.19	1	0.58	2,158	4	0.2911
43	399	473	234	58.6	234	4.14	1	0.71	910	4	0.1343
44	1,249	1,482	946	75.8	946	1.68	1	0.45	2,991	3	0.6535
45	1,220	1,448	832	68.2	832	3.12	1	0.44	3,222	4	0.4204
46	1,167	1,385	844	72.3	844	2.35	1	0.35	3,779	4	0.6342
47	946	1,123	650	68.7	650	2.54	1	0.54	2,475	4	0.4327
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	17,089	20,276	13,447	78.7	13,447	2.19	1	0.36	38,560	3	0.3917

Table 37. Forest Fringe Regular Deer Harvest - 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
48	248	336	143	57.6	143	1.87	1	0.25	748	5	0.2957
49	168	228	80	47.5	80	13.00	1	0.00	539	7	0.2249
50	483	656	348	72.0	348	2.11	1	0.28	1,475	4	0.4426
51	294	399	188	64.0	188	2.71	1	1.00	805	4	0.2802
52	575	781	388	67.4	388	1.36	1	0.36	1,710	4	0.5871
53	302	410	182	60.4	182	2.71	1	0.86	1,097	6	0.3959
54	764	1,037	581	76.1	581	1.66	1	0.53	1,979	3	0.3474
55	269	365	205	76.4	205	3.00	1	0.50	551	3	0.1469
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	3,101	4,213	2,115	68.2	2,115	2.03	1	0.47	8,904	4	0.3390

- 40% of the Parkland harvest came from the southeast (WMZ 31-34) and 25% from the northwest (WMZ 44-47). Harvest in the bucks only zone (WMZ 37) was 832 animals, more than double the 1983 estimate. However, the zone was 30% larger in size in 1984 (Table 36).
- Total harvest for the Forest Fringe was 2 100 animals with considerable harvest pressure south of Prince Albert in WMZ 50 & 52 (Table 37).
- Forest harvest pressure was concentrated in the Porcupine (WMZ 56, 57), Divide (WMZ 67) and Bronson (WMZ 68) Forests (Table 38, 39).

3. Harvest Structure

i) Hunter Questionnaire

- Provincial harvest was 217 bucks/100 does/35 fawns similar to the 237 bucks/100 does/34 fawns reported in 1983 (Table 40).
- Highest buck ratio was reported for the Grassland at 339 bucks/100 does compared to 254 bucks/100 does in 1983.
- Only 151 bucks/100 does harvested in forest in 1984 compared to 237/100 in 1983.
- Although reproduction was considered excellent in 1984 the reported fawn/doe harvest remained unchanged.

ii) Check Stations

- Check stations operated at Carlyle and Estevan in 1984 provided 969 useable biological samples (Table 41, Figure 22).
- Overall harvest structure was 219 bucks/100 does/57 fawns. The discrepancy between the fawn/doe ratio in the check station sample and the hunter questionnaire likely occurs because a significant number of hunters are unable to correctly age fawns. The 1983 check station sample estimate was 179 bucks/100 does/88 fawns.
- The age-class distribution of the 1984 harvest is heavily weighted toward the harvest of mature bucks, particularly in the 2.5 and 3.5 year classes. In 1984, 3.2 bucks/doe were harvested in these two age classes in the southeast compared to only 1.1 bucks/doe in 1983. Males represented about 60% of the southeast harvest, but only 19% of the white-tailed deer population (Figure 23). **THIS HEAVY HARVEST OF MATURE MALES WILL HAVE AN IMPACT ON THE PROPORTION OF MATURE BUCKS IN 1985.**

4. Recreation Days
   - Recreation days declined 23% in 1984 to 121 268 despite the harvest increase. A combination of high provincial success (75%) and a reduction in hunter days/kill from 5 to 3 contributed to the decline (Table 42).

5. Archery
   - 1 241 active archery hunters harvested a total of 341 deer for a success rate of 27% (Tables 43-47).
   - Archers required 16 hunter days/kill with 59% of the harvest occurring in the Farmland.
   - Harvest structure was 128 bucks/100 does/28 fawns.

6. Muzzleloaders
   - 644 active muzzleloaders killed 453 deer for a success rate of 70% (Tables 48-52).
   - Muzzleloaders required only 4 days/kill.
   - The Farmland received heaviest harvest pressure accounting for 37% of the kill.

7. Antlerless Season - WMZ 31, 32 - December 3-8, 1984
   - Poor participation accounted for about 10% of total hunters for these zones and 10% of the harvest.
   - About 20% of total female harvest and 28% of fawn kill occurred during this season.
   - Season was largely ineffective in 1984 due to low harvest.

B. POPULATION STATUS

1. Density: Quadrat Surveys
   - 1984-85 was the most ambitious aerial survey effort ever undertaken for white-tailed deer in Saskatchewan. A combination of poor survey conditions in 1983 and severe winter throughout the Parkland in 1984-85 precipitated the need for an expanded effort to collect data in 1985.
   - Population estimates for 1985 are presented in Table 53.
   - The general trend observed in 1985 was for lower population estimates and reduced precision of the estimates. A population decline was not expected given the mild winters of 1982-83 and 1983-84 and estimates of improved fawn production in those years. In addition, harvests for both 1982 and 1983 were not high by previous standards. Most notable population declines were in the Alida and Moosomin blocks.

Table 38. Forest Regular Deer Harvest - 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
56	1,172	1,613	673	57.4	673	0.94	1	0.33	4,472	7	0.9462
57	658	906	365	55.4	365	2.22	1	0.33	2,505	7	0.7572
58	224	308	97	43.3	97	2.50	1	0.75	771	8	0.3433
59	667	918	405	60.7	405	1.95	1	0.43	2,282	6	0.3894
60	340	467	125	36.9	125	1.37	1	0.37	1,301	10	0.3390
61	83	114	46	55.1	46	1.67	1	0.00	331	7	0.1088
62	91	125	40	43.8	40	6.00	1	0.00	351	9	0.0939
63	224	308	160	71.4	160	1.09	1	0.45	821	5	0.1452
64	112	154	57	51.0	57	3.50	1	0.50	345	6	0.0973
65	12	17	11	91.8	11	1.00	1	0.00	40	4	0.0061
66	104	143	40	38.5	40	5.00	1	1.00	316	8	0.0280
67	911	1,254	559	61.3	559	1.36	1	0.36	3,097	6	0.3570
68	447	616	279	62.5	279	2.07	1	0.20	1,539	6	0.3701
69	240	331	165	68.8	165	2.71	1	0.43	651	4	0.0840
70	4	6	0	0.0	0	0.00	1	0.00	6	.	0.0007
72	4	6	6	100.0	6	5.70	1	0.00	11	2	0.0006
73	12	17	11	91.8	11	11.40	1	0.00	34	3	0.0007
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	5,305	7,302	3,038	57.3	3,038	1.61	1	0.36	18,873	6	0.1143

Table 39. Forest Second Licence Deer Harvest - 1984.

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 2ND REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
56	927	1,015	558	60.2	558	1.22	1	0.89	2,484	4	0.5254
57	523	573	316	60.3	316	1.46	1	0.25	1,194	4	0.3611
58	195	214	117	59.7	117	0.60	1	0.80	451	4	0.2009
59	648	709	350	54.0	350	1.77	1	0.50	1,731	5	0.2954
60	381	418	228	59.8	228	1.35	1	0.41	1,062	5	0.2769
61	71	78	39	54.7	39	2.00	1	1.00	170	4	0.0559
67	945	1,034	588	62.2	588	1.40	1	0.42	2,214	4	0.2552
68	333	364	248	74.4	248	1.86	1	0.79	728	3	0.1750
69	177	194	117	65.7	117	2.14	1	0.29	309	3	0.0399
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	4,200	4,598	2,559	60.9	2,559	1.44	1	0.56	10,344	4	0.2372

Table 40. Provincial White-tailed Deer Harvest Structures 1983-84.

Ecological Division	% Sex and Age Class 1984 *n	 Fawns	 Males	 Females	 1983 n	 Fawns	 Males	 Females	Males/100 Females/Fawns 1984	 1983
Grassland	1086	6	73	21	616	9	66	25	339/100/27	254/100/34
Farmland	2010	9	60	31	1996	9	63	28	193/100/28	225/100/33
Parkland	2402	11	61	28	1778	9	65	26	218/100/36	254/100/42
Fringe	379	13	58	29	-	-	-	-	198/100/46	-
Forest	1074	13	51	34	948	11	62	27	151/100/46	237/100/46
Total	6951	10	61	29	5338	9	64	27	217/100/35	237/100/34

*n = Actual Questionnaires used

Table 41. Sex and Age Structure of White-tailed Deer from Check Stations 1984*

	Fawns		Yearlings		Adults		Fawns		Yearlings		Adults		Fawns		Yearlings		Adults	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	Zones 15-17						Zone 31						Zone 32					
# Animals	17	14	34	11	80	27	20	13	40	13	58	37	23	38	83	32	107	86
Percent	9	8	19	6	44	15	11	7	22	7	32	20	6	10	23	9	29	23
Males/Female	1.21		3.09		2.96		1.54		3.08		1.57		0.82		2.59		1.24	
	Zone 33						Zone 34						Combined					
# Animals	13	9	22	8	90	29	1	1	17	3	32	11	74	75	196	67	367	190
Percent	8	5	13	5	53	17	2	2	26	4	49	17	8	8	20	7	38	20
Males/Female	1.44		2.75		3.10		1.00		5.67		2.91		0.99		2.93		1.93	

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* Zone changes implemented in 1984 preclude direct comparisons between zones and years.

Figure 22. Age Structure of White-tailed Deer Harvested, S.E. Saskatchewan 1984 (n=969)

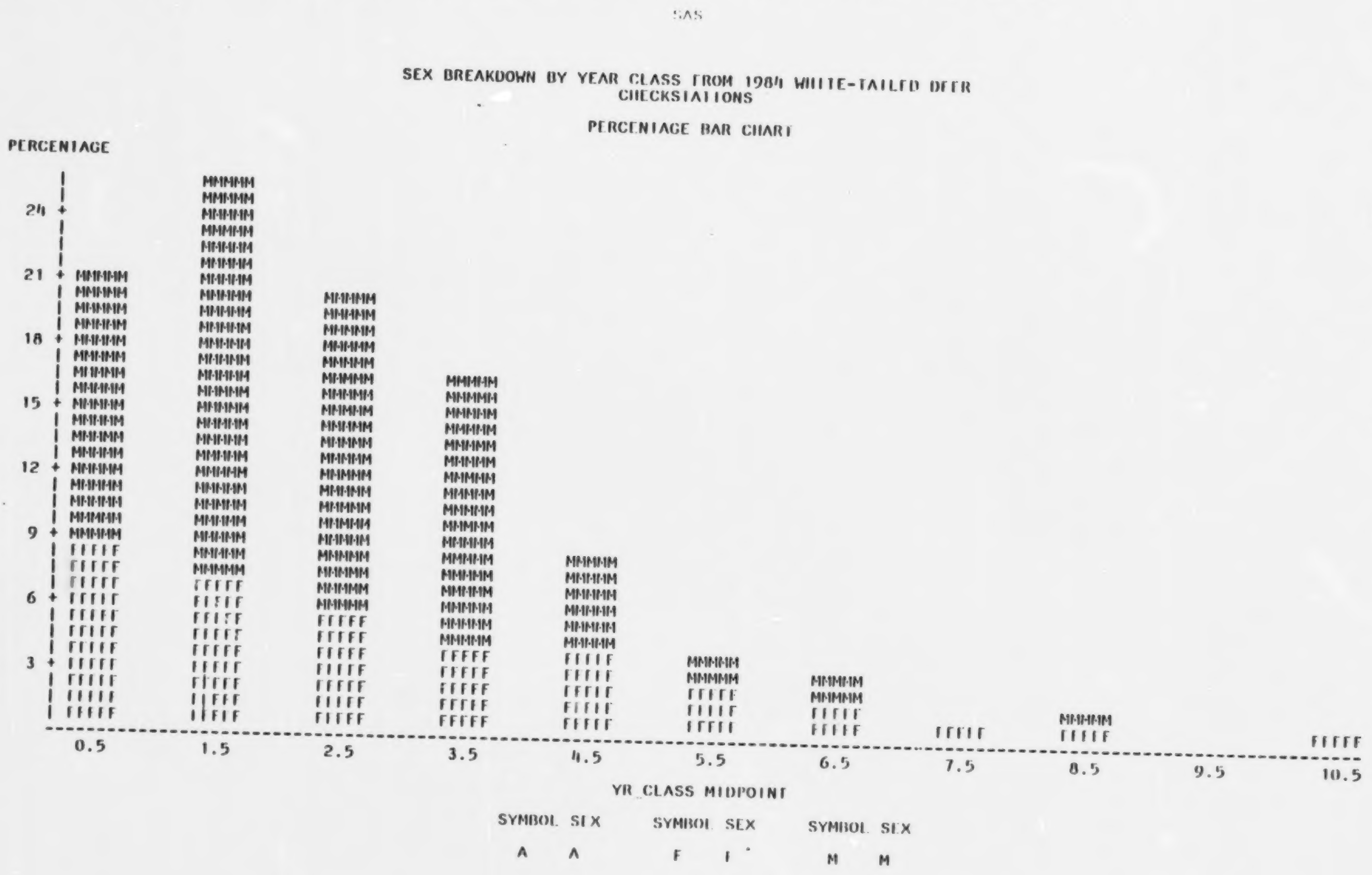

Fig. 23 SEX AND AGE STRUCTURE ESTIMATES OF THE WHITE-TAILED DEER POPULATION AND HARVEST, WMZ's 31-34, 1984.

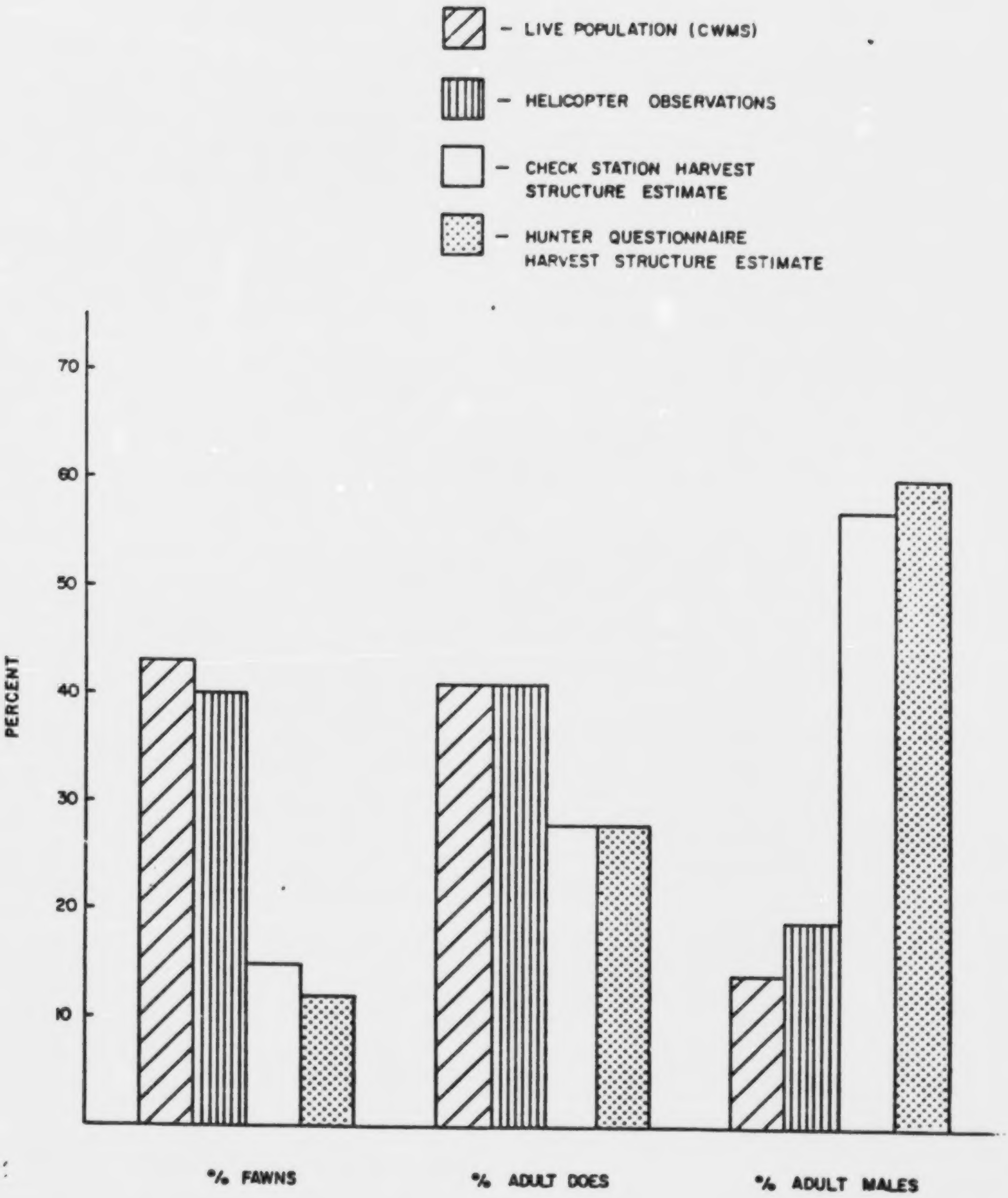

Table 42. Provincial White-tailed Deer Hunting Pressure 1981-1984.

	Hunter Days				Hunter Days/Animals			
Ecological Division	1981	1982	1983	1984	1981	1982	1983	1984
Grassland	14,441	14,214	12,453	12,032	3.4	3.4	3.2	2
Farmland	50,058	48,212	48,474	30,286	4.7	4.1	3.8	3
Parkland	66,230	55,313	49,791	39,967	5.9	4.2	4.4	3
Forest Fringe	-	-	-	9,365	-	-	-	4
Commercial Forest	59,394*	51,891*	47,937	29,619	6.9	7.4	8.3	5
Total	190,123	169,630	159,235	121,268	4.6	4.7	4.8	3

Table 43. Grassland White-tailed Deer (Archery) Harvest - 1984.

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 /ZONE
1	17	25	0	0.0	0	0.00	1	0.00	84	.	0.0101
2	3	4	0	0.0	0	0.00	1	0.00	13	.	0.0012
3	6	8	0	0.0	0	0.00	1	0.00	13	.	0.0029
4	9	13	4	49.6	4	0.00	1	0.00	11	3	0.0013
5	11	17	0	0.0	0	0.00	1	0.00	67	.	0.0113
6	23	34	8	37.2	8	8.44	1	0.00	89	11	0.0211
7	3	4	0	0.0	0	0.00	1	0.00	8	.	0.0045
8	6	8	4	74.4	4	4.22	1	0.00	30	7	0.0087
9	17	25	0	0.0	0	0.00	1	0.00	91	.	0.0264
10	45	67	13	27.9	13	12.65	1	0.00	169	13	0.0476
12	26	38	8	33.1	8	1.00	1	0.00	101	12	0.2943
13	31	46	4	13.5	4	0.00	1	0.00	137	33	0.0336
14	54	80	13	23.5	13	0.50	1	0.00	281	22	0.0504
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	249	371	55	22.0	55	1.60	1	0.00	1,093	20	0.0169

Table 44. Farmland White-tailed Deer (Archery) Harvest - 1984

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FARMLAND

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
15	17	21	8	48.5	8	4.22	1	4.22	83	10	0.0124
16	21	25	17	80.9	17	0.50	1	0.50	89	5	0.0168
17	35	42	17	48.5	17	3.00	1	0.00	148	9	0.0386
18	52	63	17	32.3	17	16.87	1	0.00	228	14	0.0306
19	28	34	8	30.3	8	0.00	1	1.00	119	14	0.0129
20	101	122	51	50.2	51	1.20	1	0.20	459	9	0.0830
21	52	63	0	0.0	0	0.00	1	0.00	268	.	0.0320
22	3	4	0	0.0	0	0.00	1	0.00	25	.	0.0053
23	59	72	25	42.8	25	0.50	1	0.00	234	9	0.0407
24	14	17	4	30.3	4	4.22	1	0.00	65	16	0.0135
25	10	13	0	0.0	0	0.00	1	0.00	21	.	0.0036
26	14	17	4	30.3	4	0.00	1	4.22	78	19	0.0177
27	7	8	0	0.0	0	0.00	1	0.00	21	.	0.0043
28	3	4	4	100.0	4	0.00	1	0.00	21	5	0.0156
29	52	63	8	16.2	8	8.44	1	0.00	198	24	0.0372
30	156	190	38	24.3	38	0.50	1	0.00	716	19	0.0987
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	626	759	202	32.3	202	1.15	1	0.25	2,774	14	0.0305

Table 45. Parkland White-tailed Deer (Archery) Harvest - 1984.

RR3320-2 PROJECTED TABLES

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: PARKLAND

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
31	11	13	4	37.5	4	0.00	1	0.00	36	9	0.0142
32	26	30	13	48.2	13	0.50	1	0.00	75	6	0.0268
33	15	17	0	0.0	0	0.00	1	0.00	49	.	0.0125
34	11	13	0	0.0	0	0.00	1	0.00	76	.	0.0141
35	4	4	0	0.0	0	0.00	1	0.00	27	.	0.0105
36	4	4	0	0.0	0	0.00	1	0.00	4	.	0.0008
37	30	34	4	14.1	4	4.22	1	0.00	118	28	0.0104
39	26	30	0	0.0	0	0.00	1	0.00	127	.	0.0166
40	4	4	0	0.0	0	0.00	1	0.00	23	.	0.0043
41	30	34	13	42.2	13	2.00	1	0.00	144	11	0.0200
42	26	30	8	32.1	8	1.00	1	0.00	141	17	0.0191
43	7	8	0	0.0	0	0.00	1	0.00	25	.	0.0037
44	7	8	0	0.0	0	0.00	1	0.00	32	.	0.0069
45	7	8	4	56.3	4	0.00	1	4.22	19	5	0.0025
46	4	4	0	0.0	0	0.00	1	0.00	11	.	0.0018
47	7	8	0	0.0	0	0.00	1	0.00	17	.	0.0030
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	221	249	46	21.0	46	1.00	1	0.20	923	20	0.0094

Table 46. Forest Fringe White-tailed Deer (Archery) Harvest - 1984

RR3320-2 PROJECTED TABLES

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
50	14	17	0	0.0	0	0.00	1	0.00	36	.	0.0108
51	10	13	0	0.0	0	0.00	1	0.00	55	.	0.0191
52	3	4	0	0.0	0	0.00	1	0.00	46	.	0.0159
53	10	13	4	40.5	4	4.22	1	0.00	34	8	0.0122
54	24	30	4	17.4	4	0.00	1	4.22	135	32	0.0237
55	3	4	0	0.0	0	0.00	1	0.00	25	.	0.0068
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	66	80	8	12.8	8	4.22	1	4.22	331	39	0.0126

Table 47 Forest 1st and 2nd White-tailed Deer Harvest - 1984.

RR3320-2 PROJECTED TABLES

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST ARCHERY LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
56	8	13	0	0.0	0	0.00	1	0.00	42	.	0.0089
57	6	8	4	74.7	4	4.22	1	0.00	21	5	0.0064
58	6	8	0	0.0	0	0.00	1	0.00	13	.	0.0056
59	8	13	8	99.6	8	4.22	1	4.22	32	4	0.0055
61	3	4	0	0.0	0	0.00	1	0.00	13	.	0.0042
62	3	4	0	0.0	0	0.00	1	0.00	2	.	0.0006
64	3	4	0	0.0	0	0.00	1	0.00	25	.	0.0071
67	14	21	4	29.9	4	0.00	1	0.00	19	5	0.0022
68	6	8	4	74.7	4	0.00	1	4.22	27	7	0.0066
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	56	84	21	37.3	21	2.00	1	2.00	195	9	0.0012
Total 1st Archers	1,218	1,543	332	27.3	332	1.26	1	0.28	5316	16	
~~Total~~ Total 2nd Archers	23	26	9	37.5	9	2.00	1	0.00	66	8	
Total Archery	1,241	1,569	341	27.4	341	1.28	1	0.28	5,382	16	

Table 48. Grassland White-tailed Deer Muzzleloader Harvest 1984.

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
1	26	32	18	68.6	18	0.67	1	0.00	93	5	0.0112
2	15	18	11	74.1	11	10.78	1	0.00	59	6	0.0056
3	3	4	0	0.0	0	0.00	1	0.00	4	.	0.0008
4	3	4	4	100.0	4	3.59	1	0.00	7	2	0.0009
5	15	18	11	74.1	11	0.50	1	0.00	43	4	0.0072
6	12	14	11	92.6	11	2.00	1	0.00	40	4	0.0094
8	9	11	7	82.3	7	3.59	1	3.59	20	3	0.0058
9	12	14	4	30.9	4	0.00	1	0.00	54	15	0.0157
10	6	7	7	100.0	7	1.00	1	0.00	13	2	0.0035
12	3	4	4	100.0	4	3.59	1	0.00	4	1	0.0104
13	12	14	7	61.7	7	7.18	1	0.00	43	6	0.0106
14	29	36	22	74.1	22	0.67	1	0.33	87	4	0.0156
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	143	176	104	73.1	104	1.45	1	0.18	466	4	0.0072

Table 49. Farmland White-tailed Deer Muzzleloader Harvest 1984.

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FARMLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
15	19	25	18	95.5	18	4.00	1	0.00	95	5	0.0142
16	11	14	4	33.4	4	3.59	1	0.00	25	7	0.0047
17	3	4	4	100.0	4	0.00	1	0.00	13	4	0.0033
18	19	25	11	57.3	11	10.78	1	0.00	48	5	0.0065
19	19	25	11	57.3	11	0.50	1	0.00	56	5	0.0060
20	46	61	40	86.5	40	2.67	1	0.00	175	4	0.0317
21	11	14	11	100.0	11	0.50	1	0.00	48	5	0.0058
22	8	11	0	0.0	0	0.00	1	0.00	13	.	0.0027
23	13	18	7	53.5	7	7.18	1	0.00	77	11	0.0135
25	3	4	0	0.0	0	0.00	1	0.00	2	.	0.0003
26	8	11	7	89.1	7	1.00	1	0.00	7	1	0.0016
27	3	4	4	100.0	4	3.59	1	0.00	5	2	0.0011
28	5	7	7	100.0	7	7.18	1	0.00	13	2	0.0093
29	19	25	18	95.5	18	1.00	1	0.50	34	2	0.0065
30	59	79	29	48.6	29	1.00	1	0.67	193	7	0.0266
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	244	327	169	69.1	169	1.93	1	0.20	805	5	0.0088

Table 50. Parkland White-tailed Deer Muzzleloader Harvest 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: PARKLAND

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
31	3	4	0	0.0	0	0.00	1	0.00	5	.	0.0021
32	19	25	18	95.2	18	10.78	1	7.18	43	2	0.0154
33	13	18	11	80.0	11	2.00	1	0.00	31	3	0.0079
34	16	22	7	44.4	7	1.00	1	0.00	59	8	0.0110
35	19	25	14	76.2	14	2.00	1	1.00	74	5	0.0282
36	8	11	0	0.0	0	0.00	1	0.00	7	.	0.0014
37	11	14	11	100.0	11	10.78	1	0.00	36	3	0.0032
38	8	11	7	88.9	7	1.00	1	0.00	11	2	0.0017
39	11	14	11	100.0	11	0.00	1	0.00	32	3	0.0043
40	11	14	4	33.3	4	3.59	1	0.00	40	11	0.0073
41	8	11	4	44.4	4	0.00	1	0.00	14	4	0.0020
42	3	4	4	100.0	4	3.59	1	0.00	2	1	0.0002
43	11	14	7	66.7	7	1.00	1	0.00	38	5	0.0056
44	5	7	7	100.0	7	1.00	1	0.00	11	2	0.0024
45	5	7	4	66.7	4	3.59	1	0.00	11	3	0.0015
46	16	22	7	44.4	7	0.00	1	1.00	70	10	0.0118
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	167	223	115	68.8	115	1.55	1	0.36	484	4	0.0049

Table 51. Forest Fringe White-tailed Deer Muzzleloader Harvest 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: WHITE TAIL DEER TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
48	3	4	0	0.0	0	0.00	1	0.00	16	.	0.0064
50	3	4	0	0.0	0	0.00	1	0.00	2	.	0.0005
51	8	11	4	47.8	4	0.00	1	0.00	25	7	0.0088
52	10	14	7	71.6	7	7.18	1	0.00	72	10	0.0247
53	3	4	0	0.0	0	0.00	1	0.00	2	.	0.0006
54	3	4	4	100.0	4	0.00	1	0.00	4	1	0.0006
55	5	7	7	100.0	7	0.00	1	0.00	9	1	0.0025
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	33	47	22	66.1	22	0.50	1	0.00	130	6	0.0049

Table 52 Forest 1st and 2nd White-tailed Deer [illegible] Harvest.

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST

SPECIES: WHITE TAIL DEER

TYPE OF LICENSE: 1ST MUZZLELOADER LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
56	5	7	7	100.0	7	0.00	1	0.00	11	2	0.0024
59	10	14	7	70.5	7	0.00	1	1.00	48	7	0.0083
63	3	4	4	100.0	4	0.00	1	0.00	4	1	0.0006
64	3	4	0	0.0	0	0.00	1	0.00	4	.	0.0010
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	20	29	18	88.2	18	0.00	1	0.25	67	4	0.0004
Total 1st Muzzleloader	607	802	428	70.5	428	1.41	1	0.23	1,952	5	
Total 2nd Muzzleloader	37	37	25	67.6	25	25	1	0	74	3	
Total	644	839	453	70.3	453	1.57	1	0.23	2,026	4	

Table 53 White-tailed Deer Stratified Random Block Aerial Surveys, 1985

Survey Block	Survey Area (km^2)	WMZ	WMZ Area (km^2)	Block Pop. Est. ±80%CI	Block Pop. Density ±80%CI (Deer/km^2)	1984 Zone Harvest (Deer/km^2)	Harvest % of Pre-Hunt Population	Previous Pop. Est. (Year)
Sask. River	4994	13 & 14	9664	2494 ± 474	0.5 ± 0.1	0.12	19.6	N/A
Last Mtn. Lake	379	21	2437	559 ± 177	1.5 ± 0.5	0.47	N/A	N/A
Dundurn	1480	22 & 30	11983	1175 ± 185	0.8 ± 0.1	N/A	N/A	
Souris	3149	31 & 32	5312	4051 ± 782	1.3 ± 0.2	0.40	22.1	N/A
Alida	1492	32	2790	2892 ± 707	1.9 ± 0.5	0.73	27.6	3510(1983)
Moose Mtn.	681	33	3883	1118 ± 368	1.6 ± 0.5	0.30	26.8	1303(1984)
Parkman	1865	34	5386	2107 ± 387	1.1 ± 0.2			2462(1983)
Moosomin	932	34	5386	974 ± 285	1.0 ± 0.3	0.23	17.8	1432(1983)
Melville	5885	37	11315	1988 ± 205	0.4 ± 0.03			N/A
Wroxton	1176	37	11315	1413 ± 295	1.2 ± 0.3	0.07	11.4	483(1983)
Parkerview	1678	39	1603	2227 ± 307	1.3 ± 0.2	0.08	5.3	2470(1983)
Pleasantdale	2949	41 & 42	14625	963 ± 117	0.3 ± 0.3	0.08	28	1106(1982)
Manitou	2129	46	5959	2392 ± 415	1.1 ± .02	0.14	13	2325(1983)

- Parkerview and Manitou population estimates remained constant.
- The Wroxton estimate was 3 times the 1983 estimate following 2 years of bucks only hunting. This increase is very high but within the capability of whitetail populations with a high reproductive output and low mortality.

2. Population Structure: Helicopter Aerial Survey
   - Of 337 deer classified from the helicopter in WMZ 32 in October 1984, there were 31 males and 103 fawns/100 females compared to 21 males and 107 fawns/100 females in 1983.
   - 385 deer were classified in WMZ 34. The 48 males and 88 fawns/100 females observed compares to 37 males and 79 fawns/100 females in 1983.
3. Population Structure: Co-operative Wildlife Observations
   - 18 241 deer were classified in 1984 compared to 13 754 in 1983 with improved samples most notable in the Grassland and Farmland (Tables 54-59).
   - Productivity estimates were lower in the Grassland and Farmland in 1984 with 94 fawns/100 females in each area compared to 107 in 1983, as an increasing number of does were observed without fawns. The ratio of bucks/does remained unchanged.
   - The Parkland produced the highest fawn/doe ratio at 104 fawns/100 does compared to 95 in 1983.
   - Forest Fringe and Forest fawn/100 doe ratios were 99 and 85, respectively.
   - Buck/100 doe ratios were lower in each of the Parkland, Forest Fringe and Forest in 1984.
4. Impact of 1984-85 Winter
   - The winter throughout the Parkland was the most severe since 1973-74.
   - The massive feeding program for white-tailed deer from November-March largely reduced mortality which is expected during severe winters.
   - In areas where feeding occured, mortality was maintained at an average level between 10-15%
   - In areas where feeding was not implemented, mortality exceeded 30%.
   - However, higher mortality is expected in the Forest zones of east central Saskatchewan as snow depths were excessive and supplemental feeding was largely impractical.
   - Reproduction in 1985 is expected to be fair to average throughout most of Saskatchewan.

Table 54. **White-tailed Deer Population Structure - Provincial Sept-Nov 1984 (Co-operative Wildlife Management Study)**

	NUMBER OF DEER						% Does with Fawns		
Ecological Zone	Yearling Males (%)	Mature Males (%)	Does	Fawns	Males * / 100 Females	Fawns / 100 Females	Single	Twins	Triplets
GRASSLAND	264 (53)	236 (47)	1221	1144	42	94	44	49	8
FARMLAND	460 (50)	468 (50)	2372	2225	39	94	59	38	3
PARKLAND	444 (47)	497 (53)	2725	2826	35	104	53	43	3
FRINGE	107 (49)	111 (51)	559	552	40	99	50	45	5
FOREST	157 (47)	175 (53)	873	743	39	85	62	35	2
TOTAL	1436 (49)	1491 (51)	7789	7525	38	97	56	40	3

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 55 · **White-tailed Deer Population Structure – Grassland Sept-Nov 1984 (Co-operative Wildlife Management Study)**

WMZ	NUMBER OF DEER						% Does with Fawns		
	Yearling Males (%)	Mature Males (%)	Does	Fawns	Males * / 100 Females	Fawns / 100 Females	Single	Twins	Triplets
1	47 (47)	53 (53)	189	202	52	107	68	32	0
2	52 (50)	52 (50)	181	177	60	98	43	46	11
3	1 (100)	0 (0)	2	4	50	200	0	100	0
4	41 (66)	21 (34)	219	137	28	63	73	27	0
5	27 (69)	12 (31)	102	86	40	84	50	47	3
6	35 (54)	30 (46)	118	105	55	89	48	43	9
7	12 (36)	21 (64)	86	85	42	99	50	43	3
8	3 (75)	1 (25)	9	11	56	122	75	25	0
9	3 (75)	1 (25)	24	15	17	63	55	45	0
10	3 (21)	11 (79)	45	52	36	116	40	60	0
11	17 (74)	6 (26)	51	50	45	98	70	30	0
12	—	—	—	—	—	—	—	—	—
13	15 (52)	14 (48)	104	134	28	129	59	37	3
14	8 (36)	14 (64)	91	86	24	95	44	49	8
TOTAL	264 (53)	236 (47)	1221	1144	42	94	57	39	4

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 56. **White-tailed Deer Population Structure - Farmland Sept-Nov 1984 (Co-operative Wildlife Management Study)**

	NUMBER OF DEER				Males *	Fawns	% Does with Fawns		
WMZ	**Yearling Males (%)**	**Mature Males (%)**	**Does**	**Fawns**	**100 Females**	**100 Females**	**Single**	**Twins**	**Triplets**
15	25 (54)	21 (46)	164	190	28	116	61	36	4
16	14 (45)	17 (55)	132	156	23	118	46	52	2
17	27 (44)	35 (56)	133	108	49	81	68	25	7
18	10 (59)	7 (41)	27	40	63	148	45	55	0
19	66 (47)	74 (53)	290	197	49	68	71	28	1
20	41 (48)	44 (52)	237	174	37	73	70	30	0
21	138 (55)	111 (45)	556	585	44	105	54	42	4
22	11 (41)	16 (59)	59	92	46	156	27	59	14
23	82 (49)	86 (51)	498	461	35	93	63	35	2
24	5 (83)	1 (17)	17	10	35	59	57	43	0
25	2 (67)	1 (33)	10	9	30	90	100	0	0
26	3 (50)	3 (50)	22	22	32	100	58	42	0
27	8 (57)	6 (43)	42	40	31	95	55	45	0
28	5 (33)	10 (67)	19	6	63	32	56	44	0
29	21 (40)	31 (60)	87	77	60	89	47	50	3
30	2 (29)	5 (71)	79	58	10	73	50	44	6
TOTAL	460 (50)	468 (50)	2372	2225	39	94	59	38	3

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 57. **White-tailed Deer Population Structure - Parkland Sept-Nov 1984 (Co-operative Wildlife Management Study)**

WMZ	NUMBER OF DEER Yearling Males (%)	Mature Males (%)	Does	Fawns	Males * / 100 Females	Fawns / 100 Females	% Does with Fawns Single	Twins	Triplets
31	24 (58)	22 (48)	133	146	35	110	57	39	4
32	40 (66)	21 (34)	277	317	21	114	52	44	4
33	22 (47)	25 (52)	165	142	28	86	67	31	2
34	83 (43)	112 (57)	417	442	47	106	52	44	4
35	9 (43)	12 (57)	160	189	13	118	78	21	1
36	4 (36)	7 (64)	60	45	20	75	72	25	3
37	81 (53)	71 (47)	491	501	32	102	43	54	3
38	26 (60)	17 (40)	70	79	69	113	57	39	4
39	14 (32)	30 (68)	141	190	31	135	37	58	5
40	41 (59)	29 (41)	180	133	39	74	50	47	2
41	22 (45)	27 (55)	129	155	43	120	51	47	2
42	25 (56)	20 (44)	159	112	28	70	58	38	5
43	10 (42)	14 (58)	76	72	34	95	56	40	4
44	4 (57)	3 (43)	32	26	25	81	65	30	5
45	17 (40)	25 (60)	107	142	42	133	25	67	8
46	22 (31)	50 (69)	86	85	84	99	38	58	4
47	0 (0)	12 (100)	42	50	31	119	59	38	3
TOTAL	444 (47)	497 (53)	2725	2826	35	104	53	43	3

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

[illegible] 8 White-tailed Deer [illegible]
Fringe Sept - Nov 1984
(Co-operative Wildlife Management Study)

WMZ	NUMBER OF DEER Yearling Males (%)	Mature Males (%)	Does	Fawns	Males * / 100 Females	Fawns / 100 Females	% Does with Fawns Single	Twins	Triplets
48	4 (27)	11 (73)	53	34	28	64	47	53	0
49	14 (58)	10 (42)	68	82	35	121	51	49	0
50	11 (41)	16 (59)	71	69	41	97	63	37	0
51	3 (43)	4 (51)	22	17	32	77	82	18	0
52	8 (62)	5 (38)	57	29	23	51	75	20	5
53	28 (55)	23 (45)	90	86	58	96	40	47	13
54	31 (48)	33 (52)	156	205	44	131	36	55	9
55	8 (47)	9 (53)	42	30	40	71	79	21	0
TOTAL	107 (49)	111 (51)	559	552	40	99	50	45	5

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

Table 59 . White-tailed Deer Population Structure - Forest Sept-Nov 1984
(Co-operative Wildlife Management Study)

	NUMBER OF DEER								
WMZ	Yearling Males (%)	Mature Males (%)	Does	Fawns	Males * / 100 Females	Fawns / 100 Females	% Does with Fawns Single	Twins	Triplets
56	26 (42)	36 (58)	230	218	27	95	63	36	1
57	24 (50)	24 (50)	97	72	53	74	60	37	4
58	7 (41)	10 (59)	53	62	32	117	55	42	3
59	16 (57)	12 (43)	57	45	49	79	57	43	0
60	18 (69)	0 (31)	47	27	60	57	67	33	0
61	3 (50)	3 (50)	10	10	60	100	43	57	0
62	0 (0)	0 (0)	3	3	0	100	100	0	0
63	15 (50)	15 (50)	92	94	33	102	59	35	6
64	7 (33)	14 (67)	63	29	33	46	64	29	7
65	0 (0)	0 (0)	4	4	0	100	0	100	0
66	5 (56)	4 (44)	59	31	19	53	62	38	0
67	23 (43)	31 (51)	79	79	68	100	73	25	2
68	7 (37)	12 (63)	37	32	54	86	68	32	0
69	5 (45)	6 (55)	33	31	39	94	63	31	6
70	0 (0)	0 (0)	2	1	0	50	100	0	0
71	—	—	-	-	-	-	-	-	-
72	0 (0)	0 (0)	1	2	0	200	0	100	0
73	1 (100)	0 (0)	6	3	0	150	50	50	0
TOTAL	157 (47)	175 (53)	873	743	39	85	62	35	2

* Males/100 Females = Yearling Males + Mature Males + Unclassified Males/Total Females

5. Impact of 1984 Drought
   - Southern Saskatchewan experienced one of the worst droughts in history during the summer and fall of 1984.
   - Impact is likely to be felt most by a reduction in fawn and yearling breeding thereby possibly reducing the 1985 reproductive output.
6. Management Problems
   a) Low deer populations in central Forest Fringe and Forest zones faced a more severe than average winter.
   b) Severe winter in the east central Forest Fringe and Forest zones.
   c) Lower than expected over-winter populations in WMZ 32 and 34. However, WMZ 32 still supports the highest density population in the province and landowner complaints continue.
   d) Very low deer population in WMZ 38 for available habitat.

C. 1985 MANAGEMENT OBJECTIVES

1. The season in the Grassland and some Farmland zones (WMZ 1-14, 24-26) will be extended to 9 days in 1985 as high whitetail harvest in 1984 indicates populations are recovering.
2. The second white-tailed deer licence will be eliminated in response to the difficult winter.
   - The one deer, 2 week hunting restrictions for WMZ 62-66 will be maintained.
3. Either-sex hunting will be introduced in WMZ 37 for 1 week and maintain bucks only for 1 week to determine hunter response.
4. A 2 week bucks only season will be introduced in WMZ 38 in an attempt to encourage population growth as was achieved in WMZ 37 in 1983 and 1984.
5. A system of antlerless hunting will be maintained in WMZ 31 and 32 where population densities are high in relation to the available habitat and where buck/doe ratios are low.

SUMMARY: APPENDIX 24 OULTINES THE 1985 WHITE-TAILED DEER HUNTING REGULATIONS.

MOOSE

I. FOREST ZONES

A. REVIEW OF 1984 HUNTING SEASON

1. Licence Sales

	1978	1979	1980	1981	1982	1983*	1984*
Special	3 249	3 616	2 355	2 400	2 034	1 967	1 898
Regular	8 856	10 230	11 077	10 542	10 212	7 894	8 006
Archery						29	41
Guided	394	355	284	290	281	212	220
TOTAL	12 499	14 201	13 716	13 232	12 527	10 073	10 165

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* Final (June 1) sales figures; however all data analyses based on figures available in March.

2. Harvest

- Northern moose harvest was 3 121 (excluding WMZ 37, 50 special seasons) compared to 2 113 in 1983 (Tables 60-64, Figures 24, 25).
- 769 moose were taken in the special seasons and 2 352 during the regular seasons.
- Hunter-days recreation declined by 17% to 5 700 for the special season (Table 61) and was stable at 29 000 for the regular season (Tables 62-64).
- The number of active regular hunters declined 4% in 1984.
- Harvest was highest during the late regular and late special seasons (Table 65).
- The sex and age information reported on hunter questionnaires resulted in a harvest estimate of 60% bulls, 11% cows, and 29% calves (Table 65, Figure 26).
- The check station sample was comprised of 40% mature bulls, 15% mature cows, 20% yearlings and 25% calves (Tables 66, 67, Figures 27, 28).
- The mean age of bulls was similar to that recorded in 1982 and cows increased to 6.2 years from 5.5 (Table 66, Figure 28).

Table 60. Combined Regular and Special Moose Harvest Data - Provincial - 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

FOR THE 1984 HUNTING YEAR

SUMMARY TOTALS FOR SPECIES: MOOSE

EZONE	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
GRASS	0	0	0	0.0	0	0.00	1	0.00	0	.	.
FARM	0	0	0	0.0	0	0.00	1	0.00	0	.	.
PARK	100	100	31	31.2	31	0.11	1	0.56	335	11	0.0296
FRINGE	426	604	225	52.9	225	8.34	1	8.72	1,817	8	0.1230
FOREST	8,251	9,495	2,948	35.7	2,948	5.08	1	2.34	33,071	11	0.2003
SHIELD	43	56	19	43.2	19	18.75	1	0.00	141	8	0.0008
	======	=======	======	=====	======	======	=====	======	======	=======	========
TOTAL	8,821	10,255	3,223	36.5	3,223	4.99	1	2.46	35,364	11	0.0948

Table 61. Special Draw Moose Harvest Data - Forest 1984.

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST

SPECIES: MOOSE

TYPE OF LICENSE: SPECIAL DRAW LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
56	300	300	152	50.7	152	0.60	1	0.32	1,218	8	0.2577
57	103	103	74	71.4	74	1.54	1	0.54	384	5	0.1162
58	158	158	56	35.5	56	1.00	1	0.70	632	11	0.2817
59	315	315	154	49.0	154	0.67	1	0.39	1,182	8	0.2016
60	183	183	85	46.6	85	1.12	1	0.44	772	9	0.2011
61	96	96	67	69.6	67	0.93	1	0.36	279	4	0.0919
62	23	23	17	72.7	17	0.40	1	0.20	82	5	0.0220
67	131	131	83	63.5	83	1.00	1	0.50	543	7	0.0626
68	150	150	81	53.9	81	0.48	1	0.30	611	8	0.1470
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	1,459	1,459	769	52.7	769	0.80	1	0.40	5,704	7	0.1441

Table 62. Regular Moose Harvest Data - Forest Fringe - 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST FRINGE

SPECIES: MOOSE

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
48	71	108	37	52.6	37	18.75	1	18.75	260	7	0.1028
49	161	244	70	43.6	70	42.18	1	28.12	708	10	0.2955
53	56	84	28	50.4	28	9.37	1	18.75	230	8	0.0828
55	59	89	37	63.6	37	4.69	1	32.80	274	7	0.0731
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	347	525	173	49.9	173	74.98	1	98.41	1,472	8	0.1286

Table 63. Regular Moose Harvest Data - Forest 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

BY SPECIES AND TYPE OF LICENSE

FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: FOREST

SPECIES: MOOSE

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
56	1,203	1,425	455	37.8	455	295.24	1	159.34	5,181	11	1.0960
57	985	1,167	351	35.7	351	267.12	1	84.35	4,119	12	1.2453
58	404	478	75	18.6	75	42.18	1	32.80	1,502	20	0.6690
59	1,148	1,359	342	29.8	342	229.63	1	112.47	4,801	14	0.8190
60	511	605	127	24.8	127	84.35	1	42.18	2,212	17	0.5765
61	190	225	70	37.0	70	51.55	1	18.75	759	11	0.2497
62	135	159	47	34.8	47	42.18	1	4.69	525	11	0.1405
63	285	337	89	31.2	89	65.61	1	23.43	1,064	12	0.1880
64	142	169	19	13.2	19	14.06	1	4.69	387	21	0.1091
65	75	89	5	6.2	5	4.69	1	0.00	281	60	0.0431
66	360	426	127	35.1	127	107.79	1	18.75	1,406	11	0.1246
67	518	614	178	34.4	178	117.16	1	60.92	2,008	11	0.2315
68	344	408	155	44.9	155	79.67	1	74.98	1,329	9	0.3195
69	162	192	80	49.1	80	60.92	1	18.75	532	7	0.0686
70	59	70	28	47.4	28	14.06	1	14.06	190	7	0.0223
71	55	66	19	33.8	19	14.06	1	4.69	185	10	0.0103
72	40	47	0	0.0	0	0.00	1	0.00	87	.	0.0047
73	135	159	14	10.4	14	9.37	1	4.69	595	42	0.0130
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	6,751	7,995	2,179	32.3	2,179	1499.6	1	679.52	27,162	12	0.1645

Table 64. Regular Moose Harvest Data - Northern Shield - 1984.

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: NORTHERN SHIELD

SPECIES: MOOSE

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
74	22	28	5	21.6	5	4.69	1	0.00	84	18	0.0019
75	4	5	0	0.0	0	0.00	1	0.00	2	.	0.0000
76	18	23	14	77.7	14	14.06	1	0.00	54	4	0.0007
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	43	56	19	43.2	19	18.75	1	0.00	141	8	0.0008

Figure 24. Provincial Moose Harvest Statistics - 1958-1984

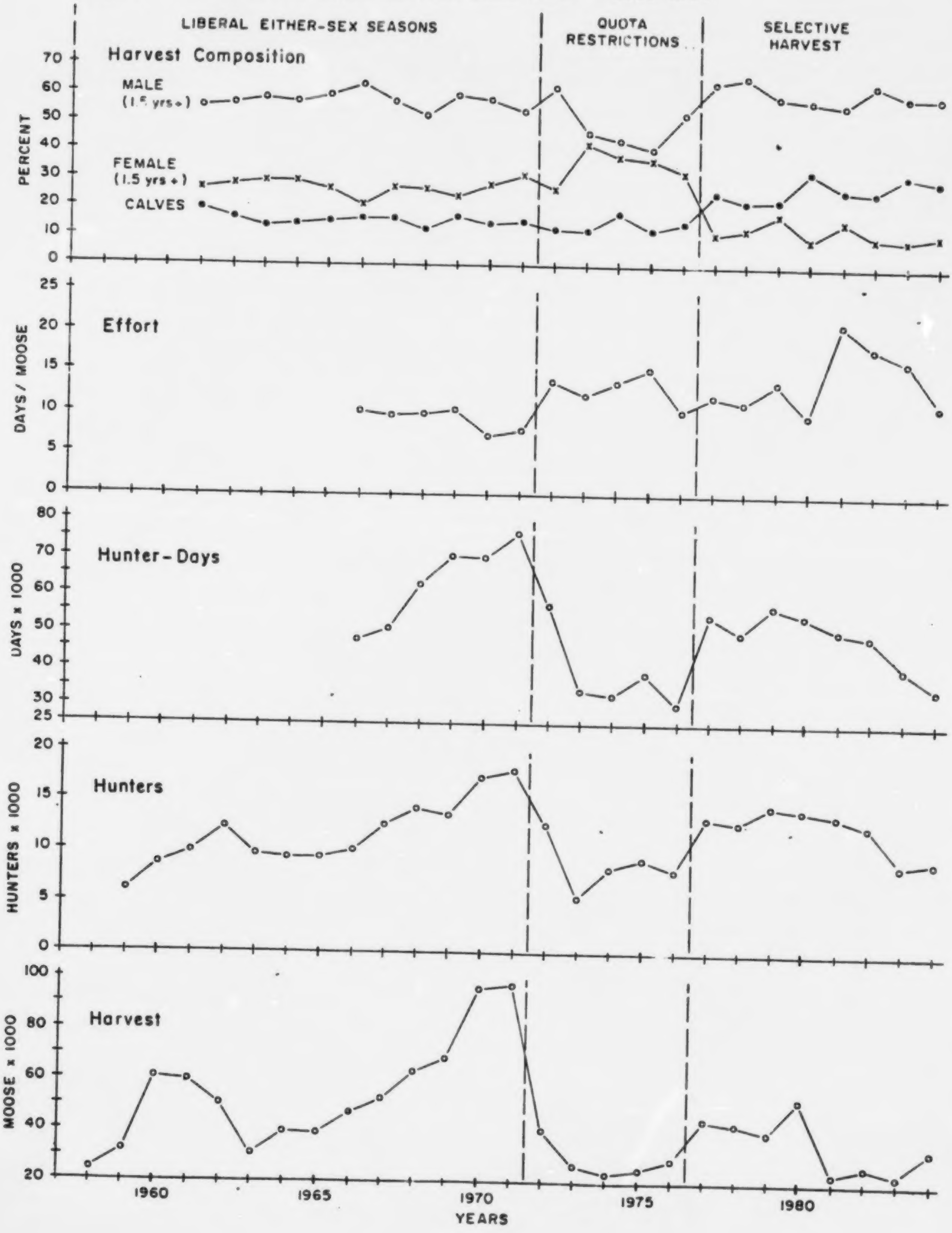


Figure 25 Moose Transect Population Estimate and Harvest Index Trends 1959-85.

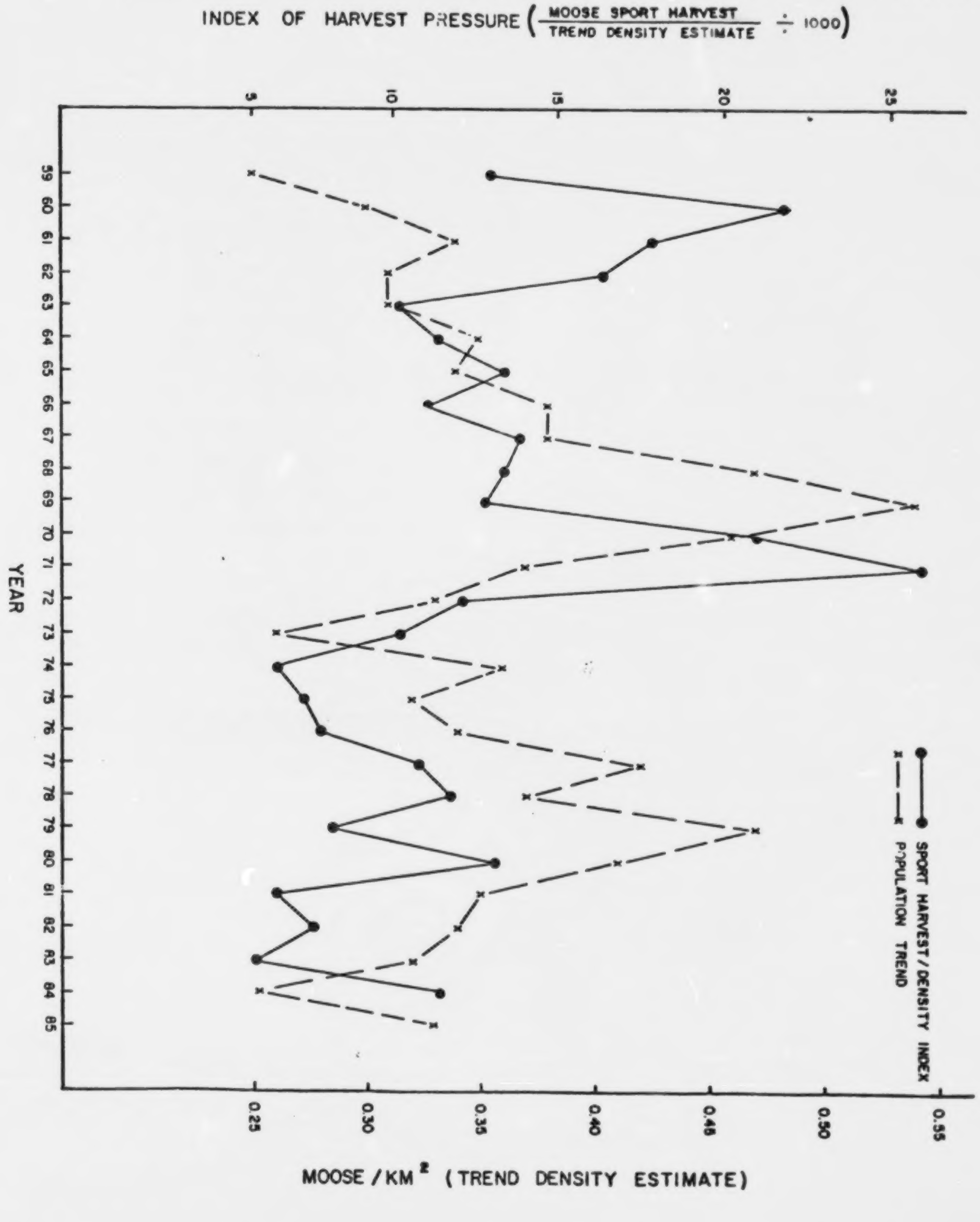


Table 65 . **Structure of Moose Harvest for the Northern Provincial Forest**
Big Game Hunter Questionnaire

Licence Type	Males	Cows	Calves	Males/Cows/Calf
Special				
Early	118	53	22	2.23/1/0.42
Late	160	301	118	0.53/1/0.39
Regular				
Early	456	0	91	456/1/91
Late	1138	0	687	1138/1/687
Total Percent	1872 (60%)	354 (11%)	918 (29%)	5.30/1/2.60

Table 66 Age Proportions of Adults in Moose Harvest 1978 - 1984

	1979		1980		1981		1982		1983		1984	
Age Class	Cows n=99	Bulls n=238	Cows n=89	Bulls n=277	Cows n-58	Bulls n=247	Cows n=98	Bulls n=285	Cows n=153	Bulls n=434	Cows n=196	Bulls n=531
1 1/2	0.20	0.34	0.25	0.23	0.26	0.26	0.20	0.28	0.23	0.38	.25	.31
2 1/2	0.23	0.21	0.18	0.21	0.10	0.19	0.16	0.22	0.20	0.22	.10	.22
3 1/2	0.11	0.18	0.10	0.17	0.16	0.19	0.14	0.14	0.10	0.16	.10	.16
4 1/2	0.14	0.12	0.07	0.14	0.14	0.11	0.08	0.11	0.11	0.06	.09	.09
5 1/2	0.06	0.04	0.03	0.09	0.03	0.08	0.11	0.08	0.06	0.06	.08	.06
6 1/2	0.06	0.04	0.09	0.06	0.07	0.08	0.08	0.04	0.10	0.04	.10	.05
7 1/2	0.05	0.01	0.03	0.04	0.12	0.03	0.06	0.04	0.05	0.02	.08	.04
8 1/2	0.07	0.01	0.01	0.02	0.00	0.04	0.03	0.03	0.03	0.02	.07	.03
9 1/2	0.02	0.02	0.06	0.02	0.03	0.01	0.04	0.05	0.04	0.02	.04	.01
10 1/2+	0.06	0.03	0.18	0.02	0.09	0.01	0.10	0.02	0.08	0.04	.09	.03
Mean Age (2.5 yrs+)	5.1	4.3	6.2	4.6	5.6	4.5	5.6	4.8	5.5	4.6	6.2	4.5

Table 67. Sex and Age Structure of Moose Check Station Samples -1984.

```
SEX          YR_CLASS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |       0|     0.5|     1.5|     2.5|     3.5|     4.5|     5.5|     6.5|     7.5|     8.5|     9.5|    10.5|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |     14 |    129 |     50 |     19 |     19 |     18 |     15 |     21 |     15 |     13 |      9 |     17 |    339
         |   1.32 |  12.17 |   4.72 |   1.79 |   1.79 |   1.70 |   1.42 |   1.98 |   1.42 |   1.23 |   0.85 |   1.60 |  31.98
         |   4.13 |  38.05 |  14.75 |   5.60 |   5.60 |   5.31 |   4.42 |   6.19 |   4.42 |   3.83 |   2.65 |   5.01 |
         |  20.59 |  49.81 |  23.26 |  13.87 |  18.10 |  26.87 |  30.00 |  44.68 |  42.86 |  43.33 |  52.94 |  56.67 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |     54 |    122 |    165 |    118 |     86 |     49 |     35 |     26 |     20 |     17 |      8 |     13 |    713
         |   5.09 |  11.51 |  15.57 |  11.13 |   8.11 |   4.62 |   3.30 |   2.45 |   1.89 |   1.60 |   0.75 |   1.23 |  67.26
         |   7.57 |  17.11 |  23.14 |  16.55 |  12.06 |   6.87 |   4.91 |   3.65 |   2.81 |   2.38 |   1.12 |   1.82 |
         |  79.41 |  47.10 |  76.74 |  86.13 |  81.90 |  73.13 |  70.00 |  55.32 |  57.14 |  56.67 |  47.06 |  43.33 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
UNKNOWN  |      0 |      8 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      8
         |   0.00 |   0.75 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.75
         |   0.00 | 100.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
         |   0.00 |   3.09 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL          68      259      215      137      105       67       50       47       35       30       17       30     1060
             6.42    24.43    20.28    12.92     9.91     6.32     4.72     4.43     3.30     2.83     1.60     2.83   100.00
```

Figure 26. Provincial Moose Harvest Check Station Statistics - 1984.

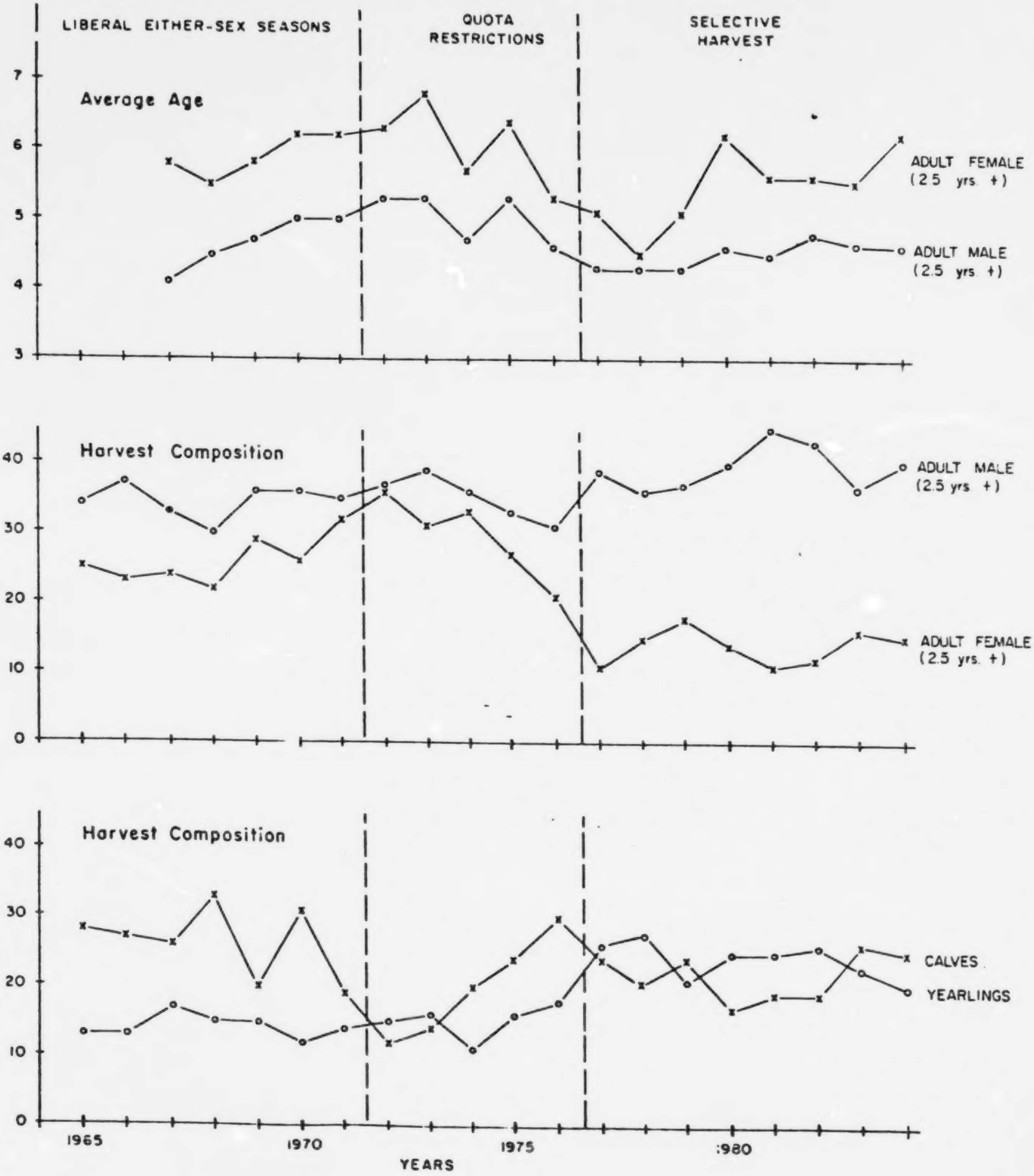


Figure 27 Distribution of Sex and Age of 1984 Moose Check Station Sample.

```
                    SEX BREAKDOWN BY YEAR CLASS FROM 1984 MOOSE CHECKSTATIONS

                                        PERCENTAGE BAR CHART

PERCENTAGE

   | 99999
30 + MMMMM
   | MMMMM
   | MMMMM
   | MMMMM
27 + MMMMM
   | MMMMM
   | MMMMM
   | MMMMM
24 + MMMMM
   | MMMMM
   | MMMMM
   | MMMMM
21 + MMMMM
   | MMMMM      MMMMM
   | MMMMM      MMMMM
   | MMMMM      MMMMM
18 + MMMMM      MMMMM
   | MMMMM      MMMMM
   | MMMMM      MMMMM
   | MMMMM      MMMMM
15 + MMMMM      MMMMM
   | MMMMM      MMMMM
   | FFFFF      MMMMM
   | FFFFF      MMMMM      MMMMM
12 + FFFFF      MMMMM      MMMMM
   | FFFFF      MMMMM      MMMMM
   | FFFFF      MMMMM      MMMMM
   | FFFFF      MMMMM      MMMMM      MMMMM
 9 + FFFFF      MMMMM      MMMMM      MMMMM
   | FFFFF      MMMMM      MMMMM      MMMMM
   | FFFFF      MMMMM      MMMMM      MMMMM
   | FFFFF      MMMMM      MMMMM      MMMMM
 6 + FFFFF      MMMMM      MMMMM      MMMMM      MMMMM
   | FFFFF      MMMMM      MMMMM      MMMMM      MMMMM
   | FFFFF      FFFFF      MMMMM      MMMMM      MMMMM      MMMMM      MMMMM
   | FFFFF      FFFFF      MMMMM      MMMMM      MMMMM      MMMMM      MMMMM      MMMMM
 3 + FFFFF      FFFFF      MMMMM      MMMMM      MMMMM      MMMMM      MMMMM      MMMMM      MMMMM                 MMMMM
   | FFFFF      FFFFF      MMMMM      MMMMM      MMMMM      MMMMM      FFFFF      MMMMM      MMMMM                 MMMMM
   | FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      MMMMM      FFFFF
   | FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF      FFFFF
   ----------------------------------------------------------------------------------------------------------------------
      0.5        1.5        2.5        3.5        4.5        5.5        6.5        7.5        8.5        9.5       10.5

                                                YR_CLASS MIDPOINT

                                    SYMBOL SEX     SYMBOL SEX     SYMBOL SEX

                                      F     F        M     M        9     9
```

B. POPULATION STATUS

1. Density: Transect Surveys
   - Provincial trend survey estimate improved from 0.25 moose/km^2 to 0.33 moose/km^2 based on the 1984-85 winter survey.
   - Population trends were higher in 9 of the 14 survey units (Table 68).
   - Most concern with respect to declines in the Cumberland South and Pine Bluff blocks as consistent declines have been noted in each of the last four years.
2. Density: Quadrat Surveys
   - Intensive quadrat surveys were conducted in the Thunder Hills Moose Restoration Project and the Cub Hills Game Preserve in 1985 (Table 36).
   - The Thunder Hills population jumped 49% from an estimate of 106±28 moose to 158± 28 animals while the Cub Hills Game Preserve population improved 47% to 282± 98 moose.
   - The Moose Mountain Provincial Park survey resulted in an estimate of 356 ± 82 animals down slightly from 370 ± 69 in 1984.

C. SPECIAL PROJECTS

1. Bear Removal Study - WMZ 60, 1984
   - 26 black bears were removed from a 130 km^2 study area in May-June, 1984.
   - Intensive aerial surveys conducted in October, 1984 revealed 87 calves/100 mature cows within the removal area compared to 54 calves/100 mature cows with a 3 km perimeter and only 40 calves/100 mature cows for the remainder of the zone (Figure 28). Replicate surveys flown in June/85 revealed 8 bulls/8 cows/7 calves (1 set twins) in the removal area, 4 bulls/5 cows/2 calves within the perimeter zone and 12 bulls/24 cows/ 17 calves (2 sets twins) in the remainder of WMZ 60.
   - This is the second bear reduction study which has resulted in improved calf survival, confirming black bears are a serious predator of neonatal moose calves.
2. Thunder Hills Moose Restoration project and Cub Hills Game Preserve
   - The restriction of hunting associated with road closures in the Thunder Hills and the termination of hunting in the Cub Hills Game Preserve has resulted in dramatic increases in moose population estimates in each area (Table 69).
   - Populations have increased 49% and 47%, respectively, in the Thunder Hills and Cub Hills since January, 1984.

Table .68. Moose Densities in Aerial Transect Survey Block, 1975-1984

Area	Zone	Sq. Km	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1975-85 Average	Change from last Survey (%)	Change from Average (%)
Porcupine East	57	284.9	—	0.33	0.62	0.22	0.38	0.48	0.47	0.36	0.58	0.28	0.44	0.42	+57	+5
Porcupine West	56	201.0	0.61	0.50	0.49	0.42	0.94	0.59	0.47	0.54	0.68	0.39	0.42	0.55	+8	-24
Leaf Lake	58	323.7	—	0.25	0.49	0.53	0.44	0.29	0.29	0.50	0.36	0.40	0.36	0.39	-10	-8
Greenwater	56	42.7	0.19	0.33	0.44	0.14	0.28	0.28	0.21	0.19	0.89	0.37	0.52	0.35	+32	+57
Cumberland South	60	375.5	0.49	0.56	0.50	0.50	0.59	0.52	0.49	—	0.49	0.43	0.35	0.49	-19	-29
Cumberland Central	60	106.2	0.34	0.39	0.62	0.47	0.50	0.39	0.73	0.41	0.37	0.32	0.44	0.46	+27	-4
Pine Bluff	61	119.1	0.97	0.98	0.66	1.21	1.17	0.77	0.91	0.94	0.81	0.83	0.64	0.90	-23	-28
Connell Creek ***	59	116.5***	—	—	—	—	—	1.20	1.18	0.71	0.68	0.65	0.82	0.87	+26	-6
Candle Lake East	63	251.2	0.15	0.09	0.24	0.15	0.17	0.08	0.15	—	0.12	0.04	0.11	0.13	+175	-15
Torch River	62	196.8	—	0.25	0.20	0.34	0.26	0.21	0.21	0.18	0.25	0.10	0.17	0.22	+70	-23
Dore South	66	626.8	0.14	0.14	0.23	0.13	0.32	0.27	0.19	0.17	0.13	0.07	—	0.18	—	—
Waterhen-Keeley **	69	353.5**	0.20	0.14	0.27	0.24	0.28	0.33	0.21	—	—	0.27	0.18	0.24	-33	-25
Cold Lake	69	248.6	0.22	0.23	0.31	0.26	0.34	0.30	0.29	—	0.20	0.13	0.15	0.24	+15	-37
Divide	67	422.2	0.33	0.34	0.42	0.28	0.53	0.46	0.39	0.27	0.19	0.30	0.44	0.36	+47	+22
Bronson	68	392.1	0.49	0.51	0.59	0.62	0.51	0.56	0.42	—	0.24	0.49	0.31	0.47	-36	-34

* not included in average ** revised survey in 1980 *** revised survey in 1981

Table 69 1983-1985 Moose Population Estimates (Stratified Random Block Sampling) for the Thunder Hills Moose Restoration Project, Cubhills Game Preserve and Moose Mountain Provincial Park.

WMZ	Survey Block	Area (km^2)	Jan. Moose Pop Est. ± 95% C.I. 1983	 1984	 1985
33	Moose Mountain	698	463 ± 93	370 ± 69	356 ± 82
63*	Cub Hills	812	159 ± 51 (0.19/km^2)	194 ± 56 (0.23/km^2)	282 ± 98 (34%) (0.35/km^2)
66*	Thunder Hills	337	97 ± 21 (0.28/km^2)	106 ± 28 (0.31/km^2)	158 ± 28 (17%) (0.46/km^2)

*All surveys flown with 2 observers in a Bell 206 helicopter.

Figure 28. Impact of Bear Removal on Moose Calf Survival - Lobstick Study Area, 1984.

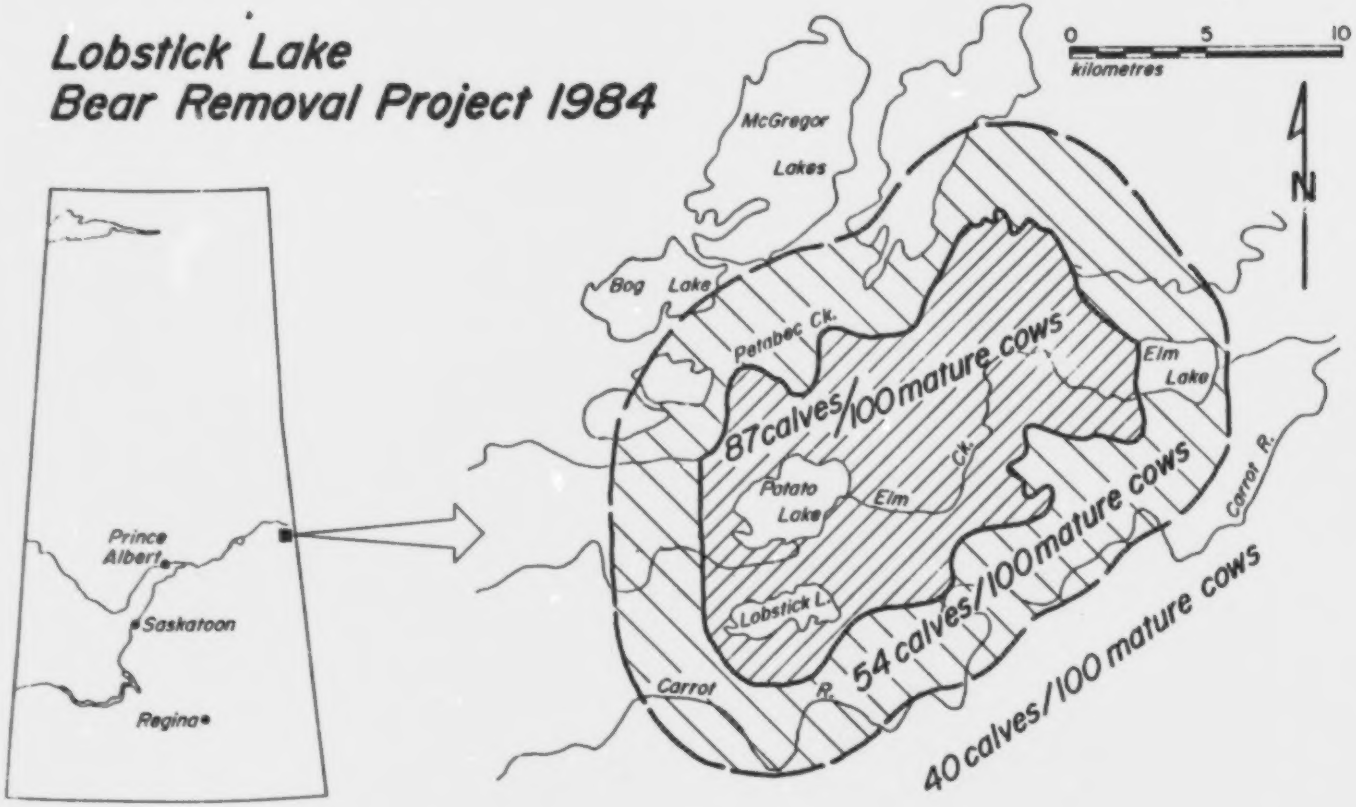

Lobstick Lake
Bear Removal Project 1984
0
5
10
kilometres
N
McGregor
Lakes
Bog
Lake
Petabec Ck.
Elm
Lake
87calves/100mature cows
Potato
Lake
Elm
Ck.
Lobstick L.
Carrot R.
54 calves/100 mature cows
40 calves/100 mature cows
Carrot
R.
Prince
Albert
Saskatoon
Regina

Table 70. 1983-85 Moose Sex and Age Helicopter Observations

New WMZ	Males	Females	Calves	Males/ 100 Females	Calves/ 100 Females	Twinning Rate	Males/ 100 Females	Calves/ 100 Females	Twinning Rate
56	31	74	43	42	58	23	46	57	0
57	26	85	35	31	41	29	9	60	28
58	26	77	31	34	40	15	35	32	0
59	30	61	45	49	74	17	48	39	9
60	26	95	31	27	33	8	51	32	9
60(a)*	62	129	62	48	48	-	-	-	-
61	53	133	68	40	51	17	46	46	17
61(a)**	44	81	27	54	33	-	-	-	-
63	-	-	-	-	-	-	-	-	-
64	35	50	23	20	46	28	44	61	10
66	26	54	22	48	50	2	55	21	0
67	32	82	45	39	45	5	33	51	25
68	33	79	51	42	65	16	28	52	5
69	36	85	43	43	51	0	38	62	5
Commercial Forest	425	1035	503	41	49	13	42	43	11

* 60(a) - Bear removal study area - Lobstick Lake
** 61(a) - Bear removal study area - Bearhead Marsh
- Twinning rates based on % of cows with calves having twins.

3. Population Structure: Aerial Surveys
   - 1963 moose were classified by sex and age class from helicopter during December, 1984 for 12 WMZ compared to 1 825 in 1983 (Table 70).
   - The provincial estimate of 41 bulls and 49 calves/100 cows compares to 42 bulls and 43 calves/100 cows in 1983.
   - Notable improvements in calf survival were noted for WMZ 59, 66 and within the bear removal project area of WMZ 60.
   - The bull/cow ratio in WMZ 67 and 68 improved considerably from the lows of 1983.
   - Low calf/cow ratios persist in WMZ 58, 60 and 61 caused largely by black bear predation on young moose calves.
4. Population Structure: Co-operative Wildlife Management Study Observations
   - A total of 437 moose were classified between September-November, 1984 compared to 308 in 1983.
   - Observers reported 54 calves and 73 males/100 cows, respectively.
   - 19% of cows with calves were reported to have twins.

SUMMARY: MOOSE POPULATIONS APPEAR TO HAVE IMPROVED IN NUMBERS AND STRUCTURE FOR MANY AREAS IN 1984. HOWEVER, PROBLEMS IN THE CENTRAL (FOREST ROAD ACCESS) AND EASTERN (BEAR PREDATION) AREAS STILL REQUIRE SPECIAL MANAGEMENT ACTION.

D. 1985 MANAGEMENT OBJECTIVES

The main objective of long range management is to increase the Saskatchewan moose population, harvest, and recreation to levels much higher than currently exist. The biological objectives of the moose management program introduced in 1977 remain the same today. The department is actively engaged in programs like the establishment of the Moose Restoration Project, Area Game Preserves, Road Corridor Game Preserves, and Bear Removal Incentives to reduce the impact of the population limiting factors.

1. **HOLD THE LINE** on 1985 special quotas except for an increase of 50 licences in each of WMZ 67 and 68 and a 100 licence increase in WMZ 57. A high level of protection for breeding females will be maintained by keeping quotas similar to last year.
2. Maintain the one-week and two-week regular seasons in WMZ 68 and WMZ 69, respectively. Harvests improved considerably in 1984 with high success rates and reduced effort (Figures 29-31).

FIG. 29—SYSTEMATIC AERIAL TRANSECT TREND SURVEY ESTIMATES FOR MOOSE, BRONSON AND DIVIDE FOREST SURVEY BLOCKS, 1973-1985.

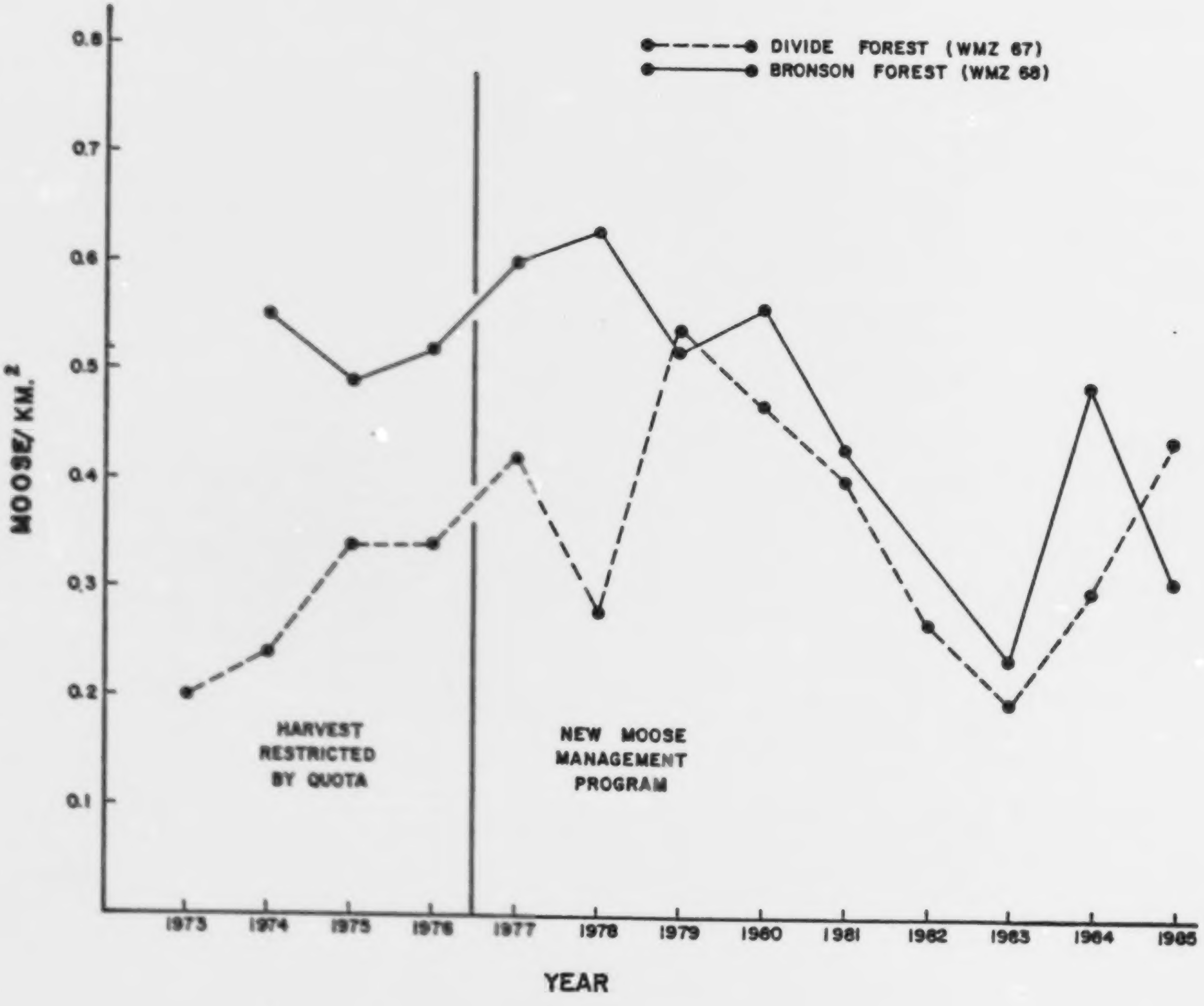


FIG. 30- REGULATED LEGAL HARVEST OF MOOSE IN ZONE 67 (DIVIDE FOREST) AND ZONE 68 (BRONSON FOREST), 1973-1984.

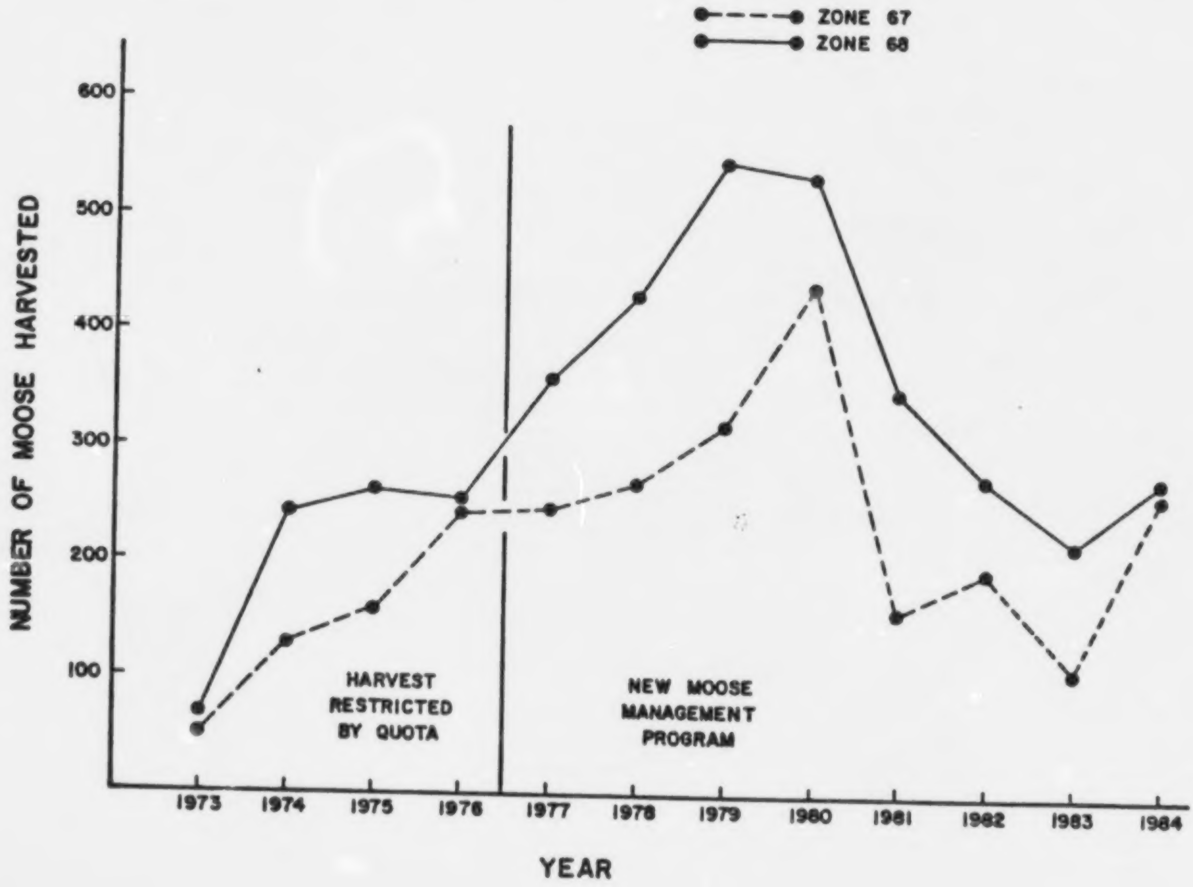
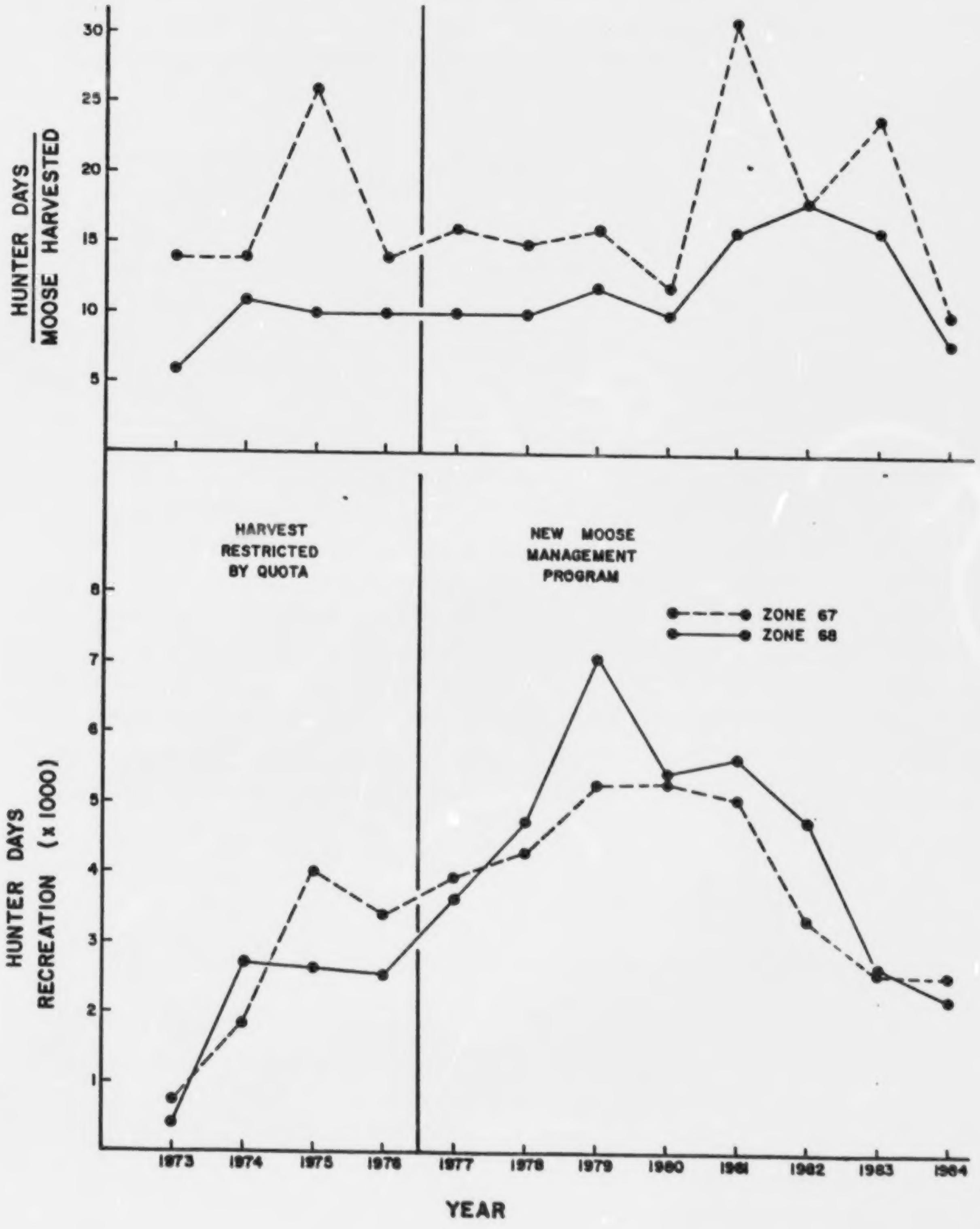


FIG. 31 – HUNTER DAYS RECREATION AND EFFORT / MOOSE HARVESTED IN ZONE 67 (DIVIDE FOREST) AND ZONE 68 (BRONSON FOREST), 1973 - 1984.



3. Increase the bear harvest in WMZ 58-61 to enhance moose calf survival. Bear harvest will be increased by liberal bear licence allocation (two free bear seals for each valid big game hunter) and promotion of the resource to resident and non-resident hunters.
4. (a) As an extension of the Moose Restoration Project, offer additional protection to another segment of the critically low moose population in the central moose range by establishing an area game preserve around Candle Lake. The extensive road network in this area is resulting in a moose harvest that is sufficiently large to prevent population growth.
   (b) Establish three road corridor game preserves in the Mariache Lake area to compliment the access road closures already completed. Based on the first two years data from the Thunder Hills Restoration Project, the addition of road corridor game preserves to the road closures will enhance moose population growth. Additional protection for this area is supported by the local residents.
   (c) Establish a road corridor game preserve on the forested portion along Highway 155 between Green Lake and Big River where casual road hunting is hampering moose population recovery. Positive public response and increased moose survival is anticipated, similar to results of the Highway 55 Road Corridor Game Preserve north of Green Lake.
5. Replace the Woody Lake Game Preserve with a combination of road corridor game preserves on the Woody Lake and Tennant Lake roads and access road closures in the Woody Lake Burn. These methods, proven in the Thunder Hills project, will allow restoration of hunting in the area while offering protection to prevent overharvesting of the moose population. Because forest regrowth is adequate to provide cover for moose, the area game preserve is no longer necessary.

II. SPECIAL SOUTHERN AREAS

A. REVIEW OF 1984 HUNTING SEASON

1. Moose Mountain Park (WMZ 33)
   - no hunting season in 1984
2. Cypress Hills Park (WMZ 6 & 7)
   - no hunting season in 1984
3. Thickwood Hills (WMZ 44)
   - no hunting season in 1984

4. Fort a la Corne WMU (WMZ 50) (Licence quota = 100)
   - estimated only 79 active hunters
   - estimated harvest was 52 moose
   - hunter success was 66% (Table 71)
5. Duck Mountain Park (WMZ 37) (Licence quota = 100)
   - estimated harvest was 31 moose
   - hunter success was 31% (Table 71)
6. Greenwater Park (WMZ 56) (Licence quota = 50)
   - harvest data not available

B. POPULATION STATUS

1. Moose Mountain Park (WMZ 33)
   - The random block survey designed and flown in 1985 resulted in an estimate of 356 ± 23%, a small decline from the 370 ± 19% estimate for 1984. A population increase was expected because no sport hunting season was allowed but apparently unregulated harvest was sufficient to result in no population increase.
2. Cypress Hills Park (WMZ 6 & 7)
   - The population remains in a depressed state owing to poor browse conditions in the West Block, combined with unregulated harvest.
3. Fort a la Corne WMU (WMZ 50)
   - No aerial survey was conducted in 1984-85.
4. Duck Mountain Park (WMZ 37)
   - No aerial survey was conducted in 1984-85.
5. Greenwater Park (WMZ 56)
   - A transect survey resulted in an increase in the moose population estimate to 0.52 moose/km^2, 57% above the long term average.
   - The Greenwater population estimate from transect surveys is characterized by wide annual fluctuations.

C. 1985 MANAGEMENT OBJECTIVES

1. Moose Mountain Park (WMZ 33)
   - The season will remain closed to sport hunters in 1985.
2. Cypress Hills Park (WMZ 6 & 7)
   - There are insufficient animals to warrant a 1985 season.
3. Thickwood Hills (WMZ 44)
   - The population is believed to be too low to warrant a 1985 season owing to continued unregulated hunting pressures.

Table 71. Moose Hunter Questionnaire Harvest Data For Fort a la Corne and Duck Mountain.

PARKS AND RENEWABLE RESOURCES
BIG GAME SURVEY ANALYSIS
BY SPECIES AND TYPE OF LICENSE
FOR THE 1984 HUNTING YEAR

ECOLOGICAL DIVISION: PARKLAND

SPECIES: MOOSE

TYPE OF LICENSE: SPECIAL DRAW LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
37	100	100	31	31.3	31	0.11	1	0.56	335	11	0.0296
	100	100	31	31.3	31	0.11	1	0.56	335	11	0.0296
50	79	79	52	65.8	52	2.33	1	0.83	346	7	0.1037
	79	79	52	65.8	52	2.33	1	0.83	346	7	0.0288

4. Fort a la Corne WMU (WMZ 50) (100 Licences)
   - Maintain quota of 100 licences
5. Duck Mountain Park (WMZ 37) (100 Licences)
   - The present format will be retained as the existing hunting regime appears to be maintaining stable populations.
6. Greenwater Park (in WMZ 56) (50 Licences)
   - Maintain status quo.

SUMMARY: APPENDIX 24 OUTLINES THE 1985 MOOSE HUNTING REGULATIONS.

MULE DEER

A. REVIEW OF 1984 HUNTING SEASON

1. Licence Sales

					1983		1984	
1978	1979	1980	1981	1982	Regular	Antlerless	Regular	Antlerless
3159	4006	4100	4329	5471	5754	1455	5754	6331

- Regular licence quotas have increased 82% since 1978.
- Antlerless quotas introduced in 1983 were expanded to other Wildlife Management Zones in primary mule deer range in 1984.

2. Harvest

- The mule deer harvest increased from 6 487 in 1983 to 10 950 in 1984 (69%) (Table 72).
- Regular season hunter success was 94%, an increase over the 83% reported for 1983 (Table 73, Appendix 18).
- 94% of the antlerless hunters were successful (Table 74). Extensive fog throughout many of the zones during the first split season did not appear to reduce hunter success (Appendix 19).

3. Hunter Recreation

- Recreation-days totalled 13 058, similar to that of 1983 (12 800 days) (Tables 73, 74).
- Hunter-days/animal declined from 2.2 in 1983 to 1.0 in 1984 for the regular season and remained at approximately 1.0 for the antlerless season.

4. Harvest Structure

(a) Hunter Questionnaire

- The buck ratio in the harvest (339/100) was similar to that reported for 1980-82 prior to the introduction of antlerless seasons (Table 73).
- The antlerless season yielded fawn/doe ratios ranging from 16-45/100 (average 33/100) with the highest ratios present in WMZ 10 (Table 74).

(b) Check Station

- Check stations were operated during the antlerless mule deer season in WMZ 10, 11, and 12 and during both splits of the WMZ 12 regular season.
- Age structure of the antlerless harvest was similar to that of 1983 with the exception of the fawn segment which declined from 36% to 27% in 1984 (Tables 75, 76, Figure 31, Appendix 20).

Table 72. Provincial Mule Deer Harvest - 1984.

SUMMARY TOTALS FOR SPECIES: MULE DEER

EZONE	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
GRASS	10,986	11,064	10,068	91.6	10,068	0.64	1	0.32	13,411	1	0.2070
FARM	976	1,047	778	79.8	778	2.29	1	0.29	1,732	2	0.0364
PARK	150	171	104	69.3	104	2.37	1	0.44	368	4	0.0270
FRINGE	0	0	0	0.0	0	0.00	1	0.00	0	.	.
FOREST	0	0	0	0.0	0	0.00	1	0.00	0	.	.
SHIELD	0	0	0	0.0	0	0.00	1	0.00	0	.	.
	======	=======	======	=====	======	======	=====	======	======	=======	========
TOTAL	12,112	12,282	10,950	90.4	10,950	0.71	1	0.32	15,511	1	0.1231

Table 73. Regular Mule Deer Harvest, Hunting Success and Pressure - 1985.

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
Grassland											
1	96	96	94	98.2	94	3.50	1	0.08	169	2	0.0203
2	837	837	777	92.9	777	3.86	1	0.20	1,103	1	0.1037
3	270	270	263	97.5	263	2.84	1	0.21	377	1	0.0878
4	102	102	97	95.0	97	4.20	1	0.50	140	1	0.0173
5	300	300	298	99.5	298	3.76	1	0.24	350	1	0.0586
6	369	369	354	95.8	354	5.52	1	0.62	500	1	0.1192
7	263	263	243	92.2	243	3.43	1	0.30	377	2	0.1991
8	53	53	53	100.0	53	2.00	1	0.09	58	1	0.0170
9	396	396	379	95.7	379	3.63	1	0.20	454	1	0.1320
10	694	694	677	97.5	677	5.00	1	0.29	797	1	0.2248
12	152	152	144	95.0	144	2.30	1	0.26	160	1	0.4642
13	347	347	333	96.1	333	3.49	1	0.27	428	1	0.1048
14	564	564	537	95.2	537	2.96	1	0.23	638	1	0.1143
	4,443	4,443	4,249	95.6	4,249	3.69	1	0.26	5,550	1	0.0870
Farmland											
19	150	150	143	95.0	143	2.50	1	0.15	200	1	0.0217
23	193	193	169	87.6	169	2.35	1	0.46	306	2	0.0534
24	200	200	167	83.5	167	1.76	1	0.21	272	2	0.0563
25	50	50	46	91.4	46	4.33	1	0.00	72	2	0.0124
26	39	39	39	100.0	39	10.50	1	0.00	51	1	0.0113
27	50	50	48	96.6	48	7.67	1	0.67	49	1	0.0100
29	97	97	63	64.9	63	1.75	1	0.33	186	3	0.0349
30	96	96	77	80.4	77	1.11	1	0.39	140	2	0.0192
	875	875	752	85.9	752	2.32	1	0.29	1,276	2	0.0268
Parkland											
45	48	48	34	71.4	34	5.00	1	0.67	109	3	0.0143
46	89	89	65	73.1	65	1.54	1	0.38	189	3	0.0318
	137	137	99	72.5	99	2.19	1	0.44	299	3	0.0219
Total	5,455	5,455	5,100	93.5	5,100	3.39	1	0.27	7,125	1	--

Table 74. Antlerless Mule Deer Harvest, Hunting Success and Pressure - 1985.

Grassland

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
2	919	919	823	89.5	823	0.00	1	0.26	1,008	1	0.0947
5	200	200	187	93.4	187	0.00	1	0.25	188	1	0.0316
6	200	200	183	91.4	183	0.00	1	0.16	192	1	0.0459
9	577	577	552	95.7	552	0.00	1	0.29	563	1	0.1638
10	2,688	2,688	2,547	94.8	2,547	0.00	1	0.39	2,615	1	0.7375
11	172	172	165	96.1	165	0.00	1	0.28	165	1	0.1678
12	200	200	195	97.3	195	0.00	1	0.39	185	1	0.5391
13	400	400	364	91.0	364	0.00	1	0.30	410	1	0.1004
14	600	600	565	94.1	565	0.00	1	0.28	606	1	0.1087
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	5,956	5,956	5,581	93.7	5,581	0.00	1	0.33	5,933	1	0.1530

Table 75. Year Class Composition of Provincial Antlerless Mule Deer Harvest (Checkstations) - 1984.

```
SEX          YR_CLASS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |     0.5|     1.5|     2.5|     3.5|     4.5|       5|     5.5|     6.5|     7.5|     8.5|     9.5|    10.5|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |     95 |    128 |    138 |     97 |     52 |      1 |     19 |     12 |      9 |      6 |      8 |      5 |    570
         |  12.89 |  17.37 |  18.72 |  13.16 |   7.06 |   0.14 |   2.58 |   1.63 |   1.22 |   0.81 |   1.09 |   0.68 |  77.34
         |  16.67 |  22.46 |  24.21 |  17.02 |   9.12 |   0.18 |   3.33 |   2.11 |   1.58 |   1.05 |   1.40 |   0.88 |
         |  47.03 |  82.05 |  87.90 |  94.17 |  91.23 |  50.00 |  95.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |    105 |     28 |     19 |      6 |      5 |      1 |      1 |      0 |      0 |      0 |      0 |      0 |    165
         |  14.25 |   3.80 |   2.58 |   0.81 |   0.68 |   0.14 |   0.14 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |  22.39
         |  63.64 |  16.97 |  11.52 |   3.64 |   3.03 |   0.61 |   0.61 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
         |  51.98 |  17.95 |  12.10 |   5.83 |   8.77 |  50.00 |   5.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
UNKNOWN  |      2 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      2
         |   0.27 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.27
         | 100.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
         |   0.99 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL         202      156      157      103       57        2       20       12        9        6        8        5      737
            27.41    21.17    21.30    13.98     7.73     0.27     2.71     1.63     1.22     0.81     1.09     0.68   100.00
```

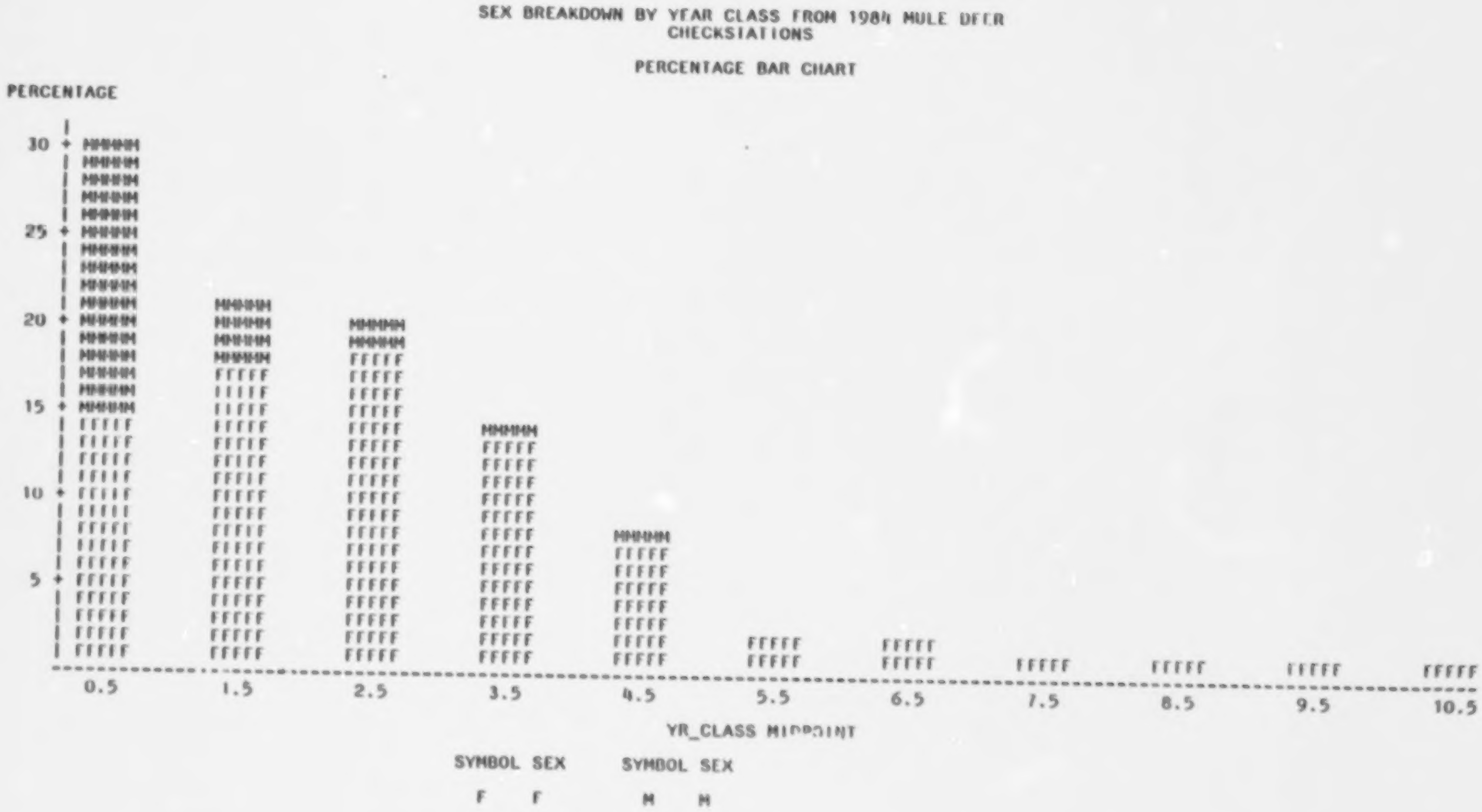
Table 76. Sex and Age Structure of Mule Deer from Check Stations 1984*

	Fawns		Yearlings		Adults		Fawns		Yearlings		Adults		Fawns		Yearlings		Adults		Fawns		Yearlings		Adults	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	Zone 10						Zone 11						Zone 12**						Combined					
# Animals	67	57	—	79	0	182	12	13	—	18	0	52	26	24	22	31	31	108	105	94	22	128	31	342
Percent	17	15	—	21	—	47	13	14	—	19	—	54	10	10	9	13	13	45	15	13	3	18	4	47
Males/Female	1.18			—		—	0.92			—		—	1.08			0.71		0.29	1.12			—		—

* Zone changes implemented in 1984 preclude direct comparisons between zones and years, except old Zone 6C with new WMZ 12.

** Regular either-sex season check stations operated in addition to antlerless seasons.

Figure 32. Year Class Composition of Provincial Antlerless Mule Deer Harvest (Checkstations) - 1984.



  - Harvest structure in the regular season in WMZ 12 was 86 bucks/100 does/19 fawns and 262 bucks/100 does/23 fawns in the first and second splits, respectively (Appendix 21).

5. Archery
   - 701 active bowhunters harvested 270 mule deer with an average of 9 hunter days/animal (Table 77).
   - 88% of the harvest occurred in the Grassland zones.
   - WMZ 13 & 14 comprise 35% of the harvest, 19% of the harvest occurs in WMZ 9 & 10.
   - Success rates varied from 26% in the Farmland to 41% in the Grassland (Table 77).
   - Harvest structure was 145 bucks/100 does/52 fawns in the Grassland (Table 77).

B. POPULATION STATUS

1. Density Estimates
   - Transect surveys were flown February 12-16 in the Great Sandhills (WMZ 9 & 10), on December 3 in Cabri (WMZ 12) and Burstall (WMZ 11) Sandhill complexes to derive population estimates (Table 78). Transects were flown half a mile apart with a Cessna 185 and 2 observers on the right side of the aircraft to reduce the number of animals missed. Deer within 1/8 mile of the transect line were counted (25% coverage).
   - Population density for WMZ 9 was unchanged from 1983 whereas the density estimates for WMZ 10, 11 & 12 were -12%, +57% and +150%, respectively, compared with 1983 estimates.
   - Stratified random block survey was conducted January 11-21 with an R-22 helicopter along the South Sask. River between the Alberta border and Riverhurst. Density estimates varied from 1.6 deer/km^2 to 3.7 deer/km^2 (Table 78).
2. Population Structure: Helicopter Aerial Survey
   - 2 884 mule deer were classified by sex and age class and antler configuration in the Cabri, Burstall, and Great Sandhill complexes during November and December, 1984 (Table 79).

Table 77. Archery Mule Deer Harvest Hunting Success and Pressure - 1984

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
Grassland											
1	26	29	2	9.4	2	0.00	1	0.00	81	34	0.0098
2	41	46	22	53.6	22	2.50	1	1.00	135	6	0.0127
3	6	7	2	37.8	2	2.43	1	0.00	24	10	0.0056
4	9	10	2	28.3	2	2.43	1	0.00	33	14	0.0040
5	28	32	15	52.3	15	5.00	1	0.00	58	4	0.0097
6	24	27	15	61.8	15	1.50	1	0.50	98	7	0.0235
7	9	10	2	28.3	2	2.43	1	0.00	27	11	0.0142
8	19	22	7	37.8	7	2.43	1	4.85	93	13	0.0275
9	26	29	7	28.3	7	2.00	1	0.00	76	11	0.0222
10	99	112	44	44.3	44	0.78	1	0.22	340	8	0.0958
12	36	41	24	66.6	24	1.25	1	0.25	111	5	0.3229
13	156	177	58	37.2	58	1.83	1	1.17	489	8	0.1196
14	109	124	36	33.3	36	0.86	1	0.29	362	10	0.0649
	587	665	238	40.5	238	1.45	1	0.52	1,928	8	0.0302
Farmland											
19	16	27	7	46.5	7	7.28	1	0.00	53	7	0.0058
23	24	41	7	30.1	7	1.00	1	1.00	124	17	0.0216
24	23	39	5	21.3	5	1.00	1	0.00	110	23	0.0229
25	4	7	0	0.0	0	0.00	1	0.00	12	.	0.0021
26	4	7	2	56.9	2	0.00	1	0.00	18	8	0.0041
27	13	22	2	19.0	2	0.00	1	0.00	72	30	0.0146
29	11	19	2	21.3	2	2.43	1	0.00	53	22	0.0100
30	6	10	0	0.0	0	0.00	1	0.00	13	.	0.0018
	101	172	27	26.4	27	1.50	1	0.25	456	17	0.0096
Parkland											
45	3	7	0	0.0	0	0.00	1	0.00	7	.	0.0009
46	10	27	5	46.5	5	4.85	1	0.00	62	13	0.0104
	13	34	5	36.5	5	4.85	1	0.00	69	14	0.0051
Total	701	871	270	38.5	270	1.53	1	0.43	2,553	9	

Table 78. Mule Deer Population Surveys 1984-85

Survey Area	Type of Survey	No. MD Observed	Density (/km^2)	Estimated Population On Survey Area
Great Sandhills (WMZ 9)	Transect 25% coverage	243	4.5	900
Great Sandhills (WMZ 10)	Transect 25% coverage	2416	10.1	10,656
Burstall Sandhills (WMZ 11)	Transect 25% coverage	286	8.0	*1082 ± 377
Cabri Sandhills (WMZ 12)	Transect 25% coverage	541	11.5	*2128 ± 407
Sask. River Hills (WMZ 13, 14)	Stratified Random Block			
	Area A***	277	1.6	
	Area B	441	3.1	
	Area C	397	2.6	
	Area D	592	3.7	
	Combined	1707	2.7	**6958 ± 829

* 95% Confidence level

** 80% Confidence level

*** Area A (Alberta border to 10 km. east of Leader Bridge); Area B (10 km. east of Leader Bridge to Western limit Cabri Sandhills);
Area C (Western limit Cabri Sandhills to Saskatchewan Landing Park).
Area D (Saskatchewan Landing Park to Riverhurst).

Table 79. Mule Deer Population Structure - Helicopter Observations Nov - Dec 1984

	NUMBER OF DEER							% Does with Fawns		
WMZ	Yearling Males (%)	Teen Males (%)	Mature Males (%)	Does	Fawns	Males* / 100 Females	Fawns / 100 Females	Single	Twins	Triplets
9**	48 (43)	45 (41)	18(16)	186	135	59	73	—	—	—
10	97 (37)	124(47)	42 (16)	633	529	41	84	80	20	—
Coop Pastures	7(58)	3(25)	2(17)	35	29	34	83	—	—	—
Watson Ranch	10(40)	11(44)	4(16)	93	78	27	84	—	—	—
Minor Ranch	21(38)	24(44)	10(18)	145	108	40	75	—	—	—
Yeast Ranch	59(35)	86(50)	26(15)	360	314	46	87	80	20	—
11	16 (39)	2(5)	23 (56)	167	102	25	61	93	7	—
12	43 (41)	8(8)	54 (51)	421	191	25	45	84	16	—
GRASSLAND	204 (39)	179(34)	137 (26)	1407	957	37	68	87	13	0

*Males - Yearling Males and Teen Males and Mature Males and Unclassified Males.
** - As represented by the Millie Pasture.
Yearling Males - Antler Class A, B as per Cooperative Wildlife Management Study.
Teen Males - Antler Class C as per Cooperative Wildlife Management Study.
Mature Males - Antler Class D, E as per Cooperative Wildlife Management Study.

- Fawn numbers were down from 1983 in all zones surveyed and averaged 68 fawns/100 females (Table 79). Surveys in both years were conducted following the hunting season. The effects of a relatively severe drought in 1984 cannot be ruled out as a contributing factor to the decline in fawn ratios over that of 1983. The unusually low ratio of 45 fawns/100 females in WMZ 12 may be the result of one or more of the following: 1) the 1984 drought, 2) a reduction in fawn output as a result of a peak in exponential population growth or 3) the influence of some unknown population limiting factors.
- WMZ 9 had proportionally more males (25%) than WMZ 10 (18%).
- Mature male segment of the male mule deer population was identical (16%) in WMZ 9 and WMZ 10.
- Yearling males averaged 39% of the male population and was similar in all four zones. Low teen segments of the male population are evident in WMZ 11 & 12 where teens comprise 5% & 8%, respectively (Table 79).

3. Population Structure: Co-operative Wildlife Management Study
    - Mule deer population structure in the Grasslands (44/100/80) was representative of the provincial population structure (Tables 80, 81).
    - 44 bucks/100 does/80 fawns observed in the Co-operative Wildlife Management Study (Grassland) was significantly higher ($x^2 = 14.78$, $P < 0.1$) in all respects than the helicopter sample from WMZ 9-12 (37/100/68) (Tables 79, 80).
    - In all zones with adequate sample sizes, both reproduction and sex ratios are acceptable, although reproductive ratios are generally lower than 1983 (Table 81).
4. Impact of the 1984 Drought
    - Southwestern Saskatchewan experienced one of the worst droughts on record during the summer and fall of 1984.
    - The impact of the drought on mule deer and ungulate populations in general is unclear.
    - Data collected at check stations indicated that mule deer fawns from WMZ 10 weighed an average of 42 lbs, less than the fawns from WMZ 9, 11 and 12 which weighed 49, 50 and 48 lbs, respectively. There was no significant difference ($P > .05$)in the weight of male and female fawns in any of the zones nor in the weight of fawns from WMZ 9, 11 or 12. Fawns from WMZ 10 weighed significantly less ($P < .05$) than fawns from WMZ 11.

Table 80 Mule Deer Population Structure - Province - Sept-Nov 1984
(Co-operative Wildlife Management Observations)

	NUMBER OF DEER							% Does with Fawns		
Eco Zone	Yearling Males (%)	Teen Males (%)	Mature Males(%)	Does	Fawns	Males* / 100 Females	Fawns / 100 Females	Single	Twins	Triplets
GRASSLAND	253 (34)	201 (27)	285 (39)	1582	1260	44	80	56	43	1
FARMLAND	77 (28)	77 (28)	120 (44)	593	498	44	84	50	48	2
PARKLAND	5 (28)	4 (22)	9(50)	46	27	33	59	60	40	0
FRINGE	3 (43)	1 (14)	3(43)	10	3	70	30	100	0	0
FOREST	3 (30)	2 (20)	5 (50)	7	2	143	29	100	0	0
PROVINCE	341 (33)	285 (27)	422 (40)	2238	1790	44	80	54	44	2

*Males - Yearling Males and Teen Males and Mature Males and Unclassified Males.

Yearling Males - Antler Class A, B as per Cooperative Wildlife Management Study.
Teen Males - Antler Class C as per Cooperative Wildlife Management Study.
Mature Males - Antler Class D, E as per Cooperative Wildlife Management Study.

Table 81. Mule Deer Population Structure - Grasslands - Sept-Nov 1984
(Co-operative Wildlife Management Observations)

	NUMBER OF DEER							% Does with Fawns		
WMZ	Yearling Males (%)	Teen Males (%)	Mature Males (%)	Does	Fawns	Males* / 100 Females	Fawns / 100 Females	Single	Twins	Triplets
1	14 (27)	25 (44)	12 (24)	94	82	54	87	70	30	0
2	17 (44)	8 (21)	14 (7)	341	288	49	84	44	56	0
3	1 (33)	0 (0)	2 (67)	13	8	23	62	50	50	0
4	22 (28)	24 (30)	33 (42)	156	105	47	67	68	32	0
5	37 (42)	35 (30)	17 (19)	192	121	41	63	65	35	0
6	12 (34)	0 (14)	13 (42)	81	78	36	96	49	44	7
7	11 (46)	3 (13)	10 (42)	48	57	50	119	54	46	0
8	7 (47)	5 (33)	3 (20)	32	15	50	47	85	15	0
9	11 (32)	10 (29)	13 (38)	61	73	59	120	34	58	0
10	22 (58)	8 (21)	8 (21)	81	60	44	74	77	23	0
11	2 (15)	5 (38)	6 (46)	29	46	159	159	18	82	0
12	1 (100)	—	—	6	8	133	133	60	20	20
13	24 (25)	27 (28)	46 (47)	205	180	88	88	49	51	0
14	27 (33)	15 (18)	41 (49)	243	139	57	57	67	31	1
TOTAL	253 (34)	201 (27)	285 (34)	1582	1260	44	80	56	43	1

*Males - Yearling Males and Teen Males and Mature Males and Unclassified Males.

Yearling Males - Antler Class A, B as per Cooperative Wildlife Management Study.
Teen Males - Antler Class C as per Cooperative Wildlife Management Study.
Mature Males - Antler Class D, E as per Cooperative Wildlife Management Study.

- The overall decline in fawn:doe ratios observed throughout the Grassland may have resulted in part from lowered female reproductive output or increased fawn mortality or a combination thereof.
- Reproduction may be reduced in 1985 across all or part of the area afflicted by the 1984 drought. The effects, if any, may be manifested in the reproductive output of young (fawn and yearling) does.

C. 1985 MANAGEMENT OBJECTIVES

- Mule deer populations continue to grow at a rapid rate over much of the primary mule deer range despite traditionally liberal antlerless quotas in 1984.
- Depredation on agricultural produce continues to escalate, particularly in WMZ 11-14 and 26. Much of the depredation is focused on standing alfalfa and fall rye crops.
- The 1985 management objective is to stabilize mule deer populations by directing hunting pressure on the antlerless segments of the population. Population reductions equivalent to the 1985 reproductive increment are intended in many zones where range deterioration, excessive depredation and potential population crashes are of concern.

Regular

1. The regular season in WMZ 11 will remain closed in 1985. The proportion of mature bucks increased two-fold in WMZ 11 as a result of a closed season in 1984. Continued protection of the buck segment is warranted to permit buck/doe ratios to increase to that of other zones in primary mule deer range.
2. An increase of 100 licences in each of WMZ 9 & 10 will be implemented on the basis of good buck and mature buck ratios in these zones.
3. An increase in regular season quotas to 150, 200 and 150 in WMZ 25, 26 and 27, respectively, from the previous 50 licences will occur based on increased mule deer populations in these zones.
4. The maintenance of 150 regular licences in WMZ 12 is in keeping with experimental management objectives established in 1984.
5. The season in WMZ 46 will be delayed one week as in 1983.

Antlerless

6. A total of 9 175 antlerless licences will be made available in WMZ 1-3, 5-14 where increasing mule deer populations are causing landowner backlash due to depredation, and an opportunity for additional recreation exists.
7. A bag limit of 2 deer per antlerless licence will be implemented to avoid potential landowner-hunter conflicts arising from high hunter density in some zones.
8. Antlerless quotas are not warranted in the peripheral zones (WMZ 4, 18, 19, 23-27, 29, 30, 45 & 46) where mule deer exist at low densities and/or are expanding their range.
9. An increase in antlerless quotas from 200 to 500 in WMZ 12 will take place in accordance with the experimental management objectives established in 1984.

SUMMARY: APPENDIX 24 OUTLINES THE 1985 MULE DEER HUNTING REGULATIONS.

ELK

I. FOREST AND FOREST FRINGE ZONES

A. REVIEW OF 1984 HUNTING SEASON

1. Regular (Bulls Only) Licence Sales including either sex season in WMZ 53

1976	1977	1978	1979	1980	1981	1982	1983*	1984*
1636	1882	1947	2054	2331	2774	3020	3187	3698

Final (June 1) sales figures however all data analyses based on figures available in March.

2. Hunting/Harvest

- There were 3 208 active elk hunters in 1984.
- The antlered season elk harvest increased from 360 animals in 1983 to 484 animals in 1984 (Table 82). An additional 63 bulls, 121 cows and 35 calves were harvested in WMZ 53 around Prince Albert National Park. This is a special management season which was originally established to obtain hunting recreation from elk resident in the National Park and to assist in depredation control in the surrounding area. The harvests have traditionally been less than 50 animals annually. However, early snowfall in 1984 changed the elk distribution and movement patterns resulting in a jump in the harvest to 219 animals and 2 546 hunter-days recreation. The analysis of regular elk season hunting information with respect to harvest and recreation excludes WMZ 53 data.
- Hunter-days increased to 9 548 from 9 425 days in 1983 (Table 82).
- Harvest during the December 3-8 late season was 142 compared to 120 in 1983 but recreation days remained relatively stable at 3 300.
- 65% of the recreation-days and 70% of the harvest occurred during the early September 17-29 season (Table 83).

B. POPULATION STATUS

1. Aerial Surveys

- Population estimate surveys were not conducted for elk during the 1984-85 winter.

Table 82. Regular Season Elk Harvest, Hunting Success and Pressure - Forest - 1984.

SPECIES: ELK

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
48	86	107	13	15.5	13	13.42	1	0.00	340	25	0.1343
49	252	313	58	23.1	58	58.16	1	0.00	828	14	0.3456
50	65	81	18	27.6	18	17.90	1	0.00	289	16	0.0866
53	627	779	219	35.0	219	0.52	1	0.30	2,546	12	0.9184
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	1,031	1,280	309	29.9	309	1.26	1	0.30	4,002	13	0.3628
56	1,021	1,190	228	22.3	228	228.18	1	0.00	4,293	19	0.9082
57	296	345	58	19.7	58	58.16	1	0.00	1,020	18	0.3084
58	65	76	4	6.9	4	4.47	1	0.00	143	32	0.0638
59	200	233	22	11.2	22	22.37	1	0.00	700	31	0.1194
60	84	98	4	5.3	4	4.47	1	0.00	322	72	0.0840
61	100	116	31	31.4	31	31.32	1	0.00	331	11	0.1089
62	65	76	9	13.7	9	8.95	1	0.00	199	22	0.0533
63	169	197	18	10.6	18	17.90	1	0.00	510	29	0.0901
64	104	121	4	4.3	4	4.47	1	0.00	300	67	0.0846
66	27	31	4	16.6	4	4.47	1	0.00	105	24	0.0093
69	46	54	9	19.4	9	8.95	1	0.00	168	19	0.0216
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	2,177	2,537	394	18.1	394	393.73	1	0.00	8,092	21	0.1472
Total	3,208	3,817	703	21.9	703	--	—	--	12,094	17	—
Total (less WMZ 53)	2,581	3,038	484	19	484	--	--	—	9,548	20	--

Table 83. Regular Season Elk Harvest, Hunting Success and Pressure By Season - 1984.

SPECIES: ELK

TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	SEASON DATES START	END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
								MALES	FEMALES	YOUNG		ANIMAL	KM2 ZONE
48	09/17	09/29	61	81	13	21.8	13	13.42	1	0.00	221	17	0.0875
48	12/03	12/08	34	45	0	0.0	0	0.00	1	0.00	119	.	0.0468
49	09/17	09/29	154	201	31	20.4	31	31.32	1	0.00	521	17	0.2176
49	12/03	12/08	102	134	27	26.2	27	26.85	1	0.00	306	11	0.1280
50	09/17	09/29	34	45	4	13.1	4	4.47	1	0.00	128	29	0.0383
50	12/03	12/08	51	67	13	26.2	13	13.42	1	0.00	161	12	0.0483
51	11/05	12/15	594	779	219	36.9	219	0.52	1	0.30	2,546	12	0.9184
56	09/17	09/29	619	792	157	25.3	157	156.60	1	0.00	2,584	17	0.5466
56	12/03	12/08	451	577	72	15.9	72	71.59	1	0.00	1,709	24	0.3616
57	09/17	09/29	210	268	45	21.3	45	44.74	1	0.00	736	16	0.2225
57	12/03	12/08	80	103	13	16.7	13	13.42	1	0.00	284	21	0.0859
58	09/17	09/29	56	72	4	8.0	4	4.47	1	0.00	139	31	0.0618
58	12/03	12/08	3	4	0	0.0	0	0.00	1	0.00	4	.	0.0020
59	09/17	09/29	140	179	18	12.8	18	17.90	1	0.00	541	30	0.0924
59	12/03	12/08	49	63	4	9.1	4	4.47	1	0.00	159	36	0.0271
60	09/17	09/29	77	98	4	5.8	4	4.47	1	0.00	322	72	0.0840
61	09/17	09/29	84	107	31	37.3	31	31.32	1	0.00	295	9	0.0971
61	12/03	12/08	10	13	0	0.0	0	0.00	1	0.00	36	.	0.0118
62	09/17	09/29	42	54	9	21.3	9	8.95	1	0.00	141	16	0.0377
62	12/03	12/08	17	22	0	0.0	0	0.00	1	0.00	58	.	0.0156
63	09/17	09/29	94	121	9	9.5	9	8.95	1	0.00	302	34	0.0534
63	12/03	12/08	73	94	9	12.2	9	8.95	1	0.00	208	23	0.0368
64	09/17	09/29	52	67	0	0.0	0	0.00	1	0.00	177	.	0.0499
64	12/03	12/08	45	58	4	9.8	4	4.47	1	0.00	123	28	0.0347
66	09/17	09/29	17	22	4	25.6	4	4.47	1	0.00	69	16	0.0061
66	12/03	12/08	7	9	0	0.0	0	0.00	1	0.00	36	.	0.0032
69	09/17	09/29	31	40	9	28.5	9	8.95	1	0.00	107	12	0.0139
69	12/03	12/08	17	22	0	0.0	0	0.00	1	0.00	60	.	0.0078

2. Population Structure - Aerial Surveys

- Surveys were conducted with fixed-winged aircraft in February, 1985 in the eastern Forest and Forest Fringe zones. The elk population was widely dispersed with small group sizes in response to the relatively high snow depths.
- In 1984, observers using an R-22 helicopter reported a higher proportion of males and lower proportion of calves than observers in fixed-winged aircraft. Fixed-winged estimates for bull ratios in 1985 are identical to the 1984 fixed-winged estimates but current calf ratios are somewhat lower (Table 84).
- The proportion of yearling and mature bulls is similar for both years.
- Calves/100 females varied from 28 in WMZ 57 to 47 in WMZ 59 (Table 84).
- Males/100 females varied from 8 in WMZ 49 to 36 in WMZ 61 Table 84).

C. 1985 MANAGEMENT OBJECTIVES

1. Porcupine Forest - Late Season

- The Porcupine Forest accounts for 70% of the provincial regular season elk hunting recreation days, 1/3 of which occurs during the late elk season. The introduction of the late elk season in 1983 has increased hunter days of recreation appreciably.
- Aerial sex/age surveys flown in 1984 and 1985 indicate relative stability in the bull/cow and calf/cow ratios.
- The Porcupine Forest elk population is sufficiently large to warrant proposed increases in the special season as this harvest is biased towards cows. A significant increase in harvest will inflate the bull/cow ratio in the post-hunt population.
- Questionable hunter ethics observed during these seasons (i.e. Greenwater) is a problem of education.
- Maintain status quo.

2. WMZ 53 - Prince Albert National Park Elk

- Season is held as a management season along the park boundary to reduce crop and stack depredation as well as to provide hunting opportunity.
- Dramatic increase in 1984 harvest was largely due to early snowfalls.
- Improved education and enforcement needed to promote ethics of fair chase.

Table 84. Elk population structures 1983-85.

				1985*		1984**	
WMZ	BULLS	COWS	CALVES	BULLS/100 COWS	CALVES/100 COWS	BULLS/100 COWS	CALVES/100 COWS
49	7	90	33	8	37	11	51
56	16	142	65	11	46	24	50
57	22	106	30	21	28	11	42
59	10	64	30	16	47	N/A	N/A
60	—	—	—	—	—	50	61
61	18	50	16	36	32	29	47
TOTAL	74	455	174	16	38	21	48

* Fixed-Winged Aircraft
** R-22 Helicopter

II. SPECIAL SEASONS

A. REVIEW OF 1984 HUNTING SEASONS

1. Moose Mountain Park (WMZ 33) (Licence Quota = 101)
   - A telephone survey resulted in a success rate estimate of 57% (Table 85).
   - The harvest structure was 62 bulls/100 cows/25 calves.
2. Fort a la Corne WMU (WMZ 50) (Licence Quota = 275)
   - The estimated harvest was 124 elk based on hunter questionnaire (Table 85).
   - The harvest structure was 146 bulls/100 cows/25 calves.
3. Porcupine Provincial Forest (WMZ 48, 49, 56, 57) (Licence Quota = 300)
   - The elk harvest was 92 animals compared to 35 in 1983 (Table 85).
   - Hunter success was 36% based on 251 active hunters.
   - Hunter-days/animal declined to 11 from 39 in 1983.
4. Cypress Hills (WMZ 6 & 7) (Licence Quota = 102)
   - Structure of the estimated harvest of 65 animals was 137 bulls/100 cows/31 calves (Table 52).

B. POPULATION STATUS

1. Moose Mountain Park (WMZ 33)
   - Population estimate was only 315 elk ±44% in 1985 compared to 463 ±40% in 1984 and 684 ±30% in 1983. **However**, a significant number of elk were believed to be off the survey block in 1985 influencing the lower estimate.
2. Fort a la Corne (WMZ 50)
   - No survey conducted in 1985.
3. Cypress Hills (WMZ 6 & 7)
   - Surveys conducted by Saskatchewan, recorded 205 animals wintering in the Center and East Blocks. The herd structure of the Center and East block population was 51 bulls/100 cows/42 calves. In addition, Alberta surveys indicate West Block population approximately 675 animals.

C. 1985 MANAGEMENT OBJECTIVES

1. Moose Mountain Park (WMZ 33)
   - Although the declining elk population is of concern, documented Indian harvest levels do not warrant closure of the sport hunting season.
   - The Indian Conservation Committee will provide a forum for co-operative efforts with the Indians for management of the Moose Mountain elk herd.
   - Maintain 100 licences.

Table 85. Special Season Hunter Questionnaire Elk Harvest Data, 1984

WMZ	Quota	Active Hunters	Harvest	Success	Harvest Structure Bulls/100 Cows/Calf	Hunter Days	Hunter Days /Per Kill
7	102	102	65	64%	137/100/31	310	5
33a	101	100	67	67%	107/100/57	261	4
33b*	101	100	57	57%	62/100/25	298	5
50	275	222	124	56%	146/100/25	978	8
56	300	251	92	37%	30/100/30	1002	11

*33b data obtained from telephone survey of 95 hunters.

2. Fort a la Corne (WMZ 50)
   - Estimated harvest of 125 animals represents approximately 20% of the pre-hunt population. The hunter questionnaire harvest estimate is biased upwards but the unregulated harvest was believed to be well below average in 1984-85.
   - Maintain quota at 275.
3. Porcupine Provincial Forest (WMZ 48, 49, 56 & 57)
   - Population is considered large enough to warrant an increase in special licences from current 300 to 500.
4. Cypress Hills West Block (WMZ 7 West of Highway 271 and Provincial Grid 615)
   - Maintain current quota of 100 licences.
5. Cypress Hills Center and East Blocks (WMZ 7 East of Highway 271 and Provincial Grid 615 and WMZ 6)
   - A season with a quota of 100 licences will be establsihed to provide hunting opportunity and assist with depredation control.

SUMMARY: APPENDIX 24 OUTLINES THE 1985 ELK HUNTING REGULATIONS.

PRONGHORN ANTELOPE

A. REVIEW OF 1984 HUNTING SEASON

- Total licence sales were 3 017 in 1984.
- The 1984 antelope harvest (rifle and archery) was estimated to be 2 031 compared to 2 010 in 1983 (Table 86).
- Antelope hunters were afield for 4 315 days in 1984, 9% above 1983 (Table 86).
- Harvest structure was 174 bucks/100 does/19 kids (Table 86).
- Rifle hunter success of 81% (Table 87) was similar to previous years.
- Hunter days/animal for rifle hunters remained at 2 in 1984 (Table 87).
- Archery licences accounted for 298 of the 1984 licence sales up from 248 in 1983.
- An estimated 203 active archery hunters killed 46 antelope, a 23% success rate.
- The harvest structure of archer-killed antelope was 566 bucks/100 does/33 kids and required an average of 12 days/kill (Table 88).

B. POPULATION STATUS

- The July 1985 aerial survey revealed a provincial antelope density of .46/km ^{2} up 2% from 1984 (Table 89). The survey blocks were realigned this year to correspond to the new Wildlife Management Zone boundaries resulting in slightly more coverage than in 1984. The estimated provincial population of 11,000 is similar to last year; however fluctuations in some zone populations were evident.
- The provincial kid:doe ratio of .63 is improved over that of 1984 (.56) and is similar to the long term average of .67 (Table 89). While the number of adults (including yearlings) was similar to last year, a 17% increase occured in the kid cohort. Reproduction of this magnitude is significant in light of the drought conditions present over much of the antelope range during the summer and fall of 1984 and again this summer. A blizzard at the end of October 1984 resulted in the early movement of many antelope (probably limited to Zone 2, 3, 6 and 7 populations) south into Montana where the winter range was in fair condition; thereby contributing to good winter survival and associated reproduction this spring. Ample snowcover this past winter coupled with relatively good fall and spring rains in the northern portion of the provincial antelope range may have accounted for the good reproduction evident in those zones north of the Trans-Canada highway.

Table 86. Provincial Antelope Harvest, Hunting Success and Pressure - 1984.

PARKS AND RENEWABLE RESOURCES

BIG GAME SURVEY ANALYSIS

FOR THE 1984 HUNTING YEAR

SUMMARY TOTALS FOR SPECIES: ANTELOPE

EZONE	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL /	KM2 ZONE
GRASS	2,499	2,534	1,910	76.4	1,910	1.72	1	0.19	4,084	2	0.0640
FARM	153	157	121	79.4	121	2.08	1	0.18	231	2	0.0152
PARK	0	0	0	0.0	0	0.00	1	0.00	0	.	.
FRINGE	0	0	0	0.0	0	0.00	1	0.00	0	.	.
FOREST	0	0	0	0.0	0	0.00	1	0.00	0	.	.
SHIELD	0	0	0	0.0	0	0.00	1	0.00	0	.	.
	======	=======	======	=====	======	======	=====	======	======	=======	========
TOTAL	2,652	2,691	2,031	76.6	2,031	1.74	1	0.19	4,315	2	0.0546

Table 87. Regular Season Antelope Harvest, Hunting Success and Pressure - 1984.

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
1	52	52	40	76.7	40	2.67	1	0.17	84	2	0.0101
2	535	535	419	78.3	419	1.36	1	0.15	926	2	0.0870
3	482	482	384	79.6	384	1.82	1	0.12	786	2	0.1830
4	39	39	23	59.1	23	1.75	1	0.50	51	2	0.0062
5	49	49	26	53.6	26	1.50	1	0.00	97	4	0.0162
6	52	52	47	89.8	47	4.67	1	0.17	61	1	0.0146
7	150	150	106	70.6	106	1.75	1	0.25	249	2	0.1314
8	151	151	132	87.3	132	2.08	1	0.04	216	2	0.0637
9	347	347	307	88.4	307	1.91	1	0.25	449	1	0.1308
10	100	100	85	85.4	85	1.48	1	0.29	144	2	0.0407
12	172	172	136	78.8	136	1.38	1	0.31	298	2	0.8658
14	176	176	162	92.1	162	1.41	1	0.29	219	1	0.0393
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	2,305	2,307	1,866	81.0	1,866	1.68	1	0.19	3,581	2	0.0553
24	50	50	41	81.8	41	1.36	1	0.09	57	1	0.0118
25	50	50	48	96.7	48	3.67	1	0.17	73	2	0.0125
26	44	44	30	68.0	30	1.50	1	0.33	73	2	0.0163
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	144	144	119	82.8	119	2.02	1	0.18	204	2	0.0134
Total	2,449	2,449	1,985	81.1	1,985	1.74	1	0.19	3,785	2	0.0546

Table 88. Arhcery Season Antelope Harvest, Hunter Success and Pressure - 1984.

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
1	7	9	2	29.2	2	2.18	1	0.00	25	12	0.0030
2	17	20	2	13.0	2	0.00	1	2.18	70	32	0.0065
3	13	15	4	33.4	4	4.37	1	0.00	23	5	0.0053
4	6	7	0	0.0	0	0.00	1	0.00	13	.	0.0016
5	9	11	7	70.2	7	6.55	1	0.00	18	3	0.0030
6	2	2	0	0.0	0	0.00	1	0.00	2	.	0.0005
7	7	9	0	0.0	0	0.00	1	0.00	14	.	0.0074
8	7	9	2	29.2	2	2.18	1	0.00	24	11	0.0071
9	22	26	4	19.5	4	4.37	1	0.00	53	12	0.0156
10	43	50	11	25.4	11	4.00	1	0.00	110	10	0.0311
12	6	7	0	0.0	0	0.00	1	0.00	16	.	0.0476
13	43	50	9	20.3	9	3.00	1	0.00	114	13	0.0280
14	11	13	2	19.5	2	0.00	1	0.00	19	9	0.0034
24	1	2	0	0.0	0	0.00	1	0.00	4	.	0.0009
25	4	7	2	48.9	2	2.18	1	0.00	16	8	0.0028
26	3	4	0	0.0	0	0.00	1	0.00	7	.	0.0015
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Total	203	240	46	22.7	46	5.66	1	0.33	529	12	-

Table 89. Provincial Antelope Density (/km^2) and Kid:Doe Ratio, 1984-1985.

WMZ	AREA (km^2) SURVEYED	ANTELOPE OBSERVED	KIDS/ 100 DOES	DENSITY (km^2) 1985	DENSITY (km^2) 1984	% CHANGE* FROM 1984
1	342	21	25	.06	N/A	
2	1989	1204	58	.60	.54	+11%
3	1282	969	63	.76	.53	+43%
6	630	108	61	.17	.16	+6%
7	557	297	54	.53	.56	-5%
8	544	178	66	.33	.32	+3%
9	793	298	68	.38	.48	-21%
10	606	236	73	.39	.47	-17%
11	326	143	105	.44	.50	-12%
12	185	60	81	.32	.37	-13.5%
26	280	48	64	.17	.20	-15%
	7534	3562	63	.47	.46	+2%

N/A - Not Surveyed

*NOTE: Changes in zone populations were assessed on a density (per unit area) basis in light of the revisions in survey block location for 1985.

C. 1985 MANAGEMENT OBJECTIVES

A regular antelope season will be held October 28 to November 2 in 18 WMZ's. Licence quotas for 1985 reflect a 9% increase over 1984 levels. The 1985 quota of 2,950 licences reflects population increases in perpheral WMS's 4, 5 and 19 and a 67% increase over 2 years in the WMZ 3 antelope population. The licence quota for WMZ 9 was reduced 50 licences in 1985 in response to a 21% decrease in observed antelope density.

The archery antelope season will be held September 2 to October 4 in WMZ's 1-14, 19, 23 to 26 with a quota of 300 licences valid in any zone.

SUMMARY: APPENDIX 24 OUTLINES THE 1985 ANTELOPE HUNTING REGULATIONS.

LICENCE QUOTA SUMMARY

WMZ	Licence Quota	
	1985	1984
1	50	50
2	600	600
3	600	500
4	100	50
5	150	50
6	50	50
7	200	300
8 + 11	150	150
9	350	400
10	100	100
12 + 13	200	200
14	200	200
24	50	50
25	50	50
26	50	50
*19	50	-
Total	2950	2700

*Newly implemented season for 1985

BLACK BEAR

A. REVIEW OF 1984 HUNTING SEASON

1. Licence Sales *Note: Final (June 1) licence sales figures are presented; however all data analysis are based on figures available in March.
    - Total licence sales were 4 899 compared to 4 375 in 1983.
    - There were 529 second bear licences issued in 1984 compared to 395 in 1983.
    - In addition, 3 170 free bear permits valid for WMZ 58-61 for the fall bear season were obtained by 1 268 hunters (Table 90).
2. Hunting/Harvest
    - The provincial harvest was 1 778 animals compared to 1 071 recorded in 1983 for regular first and second licence holders (Table 91).
    - Hunter success was 43% for first licence hunters and 56% for second licence holders compared to 32% and 57%, respectively, in 1983.
    - Bear hunting supplied 10 189 hunter-days of recreation compared to 10 027 in 1983 (Table 91).
    - 44% of the harvest occurred during the fall bear season (Appendix 22, 23) compared to 46% in 1983.
    - The provincial harvest structure was 217 boars/100 sows/18 cubs (Table 91).

B. POPULATION STATUS

- Field reports suggest the bear population remains very high.
- Expect bear numbers comparable to 1983 levels.

C. 1985 MANAGEMENT OBJECTIVES

1. In agricultural Saskatchewan, bear numbers continue to increase as does the bear's role as a pest. The bear's protected status in southern Saskatchewan was removed in 1983 to help keep bear numbers to a minimum, reducing problems with pest bears. **In Wildlife Management Zones 1 to 41, and 44 to 47, bears may again be hunted at any time of the year without a licence.**

2. Bears are serious predators of neonatal moose calves in WMZ 58-61. Calf mortality due to black bears has been well documented and exceeds 50% in some areas, severely limiting the population growth and harvest of moose. Moose calf recruitment is similarly low in a number of other WMZ, but the significance of black bear predation has not yet been documented. **Bear hunting regulations permit the harvest of one bear per licence (maximum two licences/hunter) during the spring season in WMZ 42, 43, 48-76. To encourage**

additional bear hunting, a person hunting bear in WMZ 58-61 during the spring season may obtain two free bear seals (limit one bear either-sex/seal) with each valid bear licence. During the fall season, each holder of a valid big game licence in WMZ 58-61 may receive two free bear seals (maximum of two seals/hunter) for the months of August-October, inclusive.

SUMMARY: APPENDIX 24 OUTLINES THE 1985 BEAR HUNTING REGULATIONS.

Table 90. Results of the 1984 Free Bear Licence Questionnaire, Zones 58-61.

750 questionnaires mailed out
17 returns (wrong address)
1 received two questionnaires (completed only 1)
1 returned a blank survey (did not hunt)

731 questionnaires received by hunters

409 returns received

$\frac{409}{731}$ = 56% return rate

Approximately 3 170 licences of first and second type were issued to 1 268 hunters (average of 2.5 seals/hunter).

Projection factor of 3.1
$\frac{\text{Total hunters}}{\text{Active hunters}} = \frac{1\,268}{409}$

Kill by Zone	Actual	Projected
58	9	28
59	26	81
60	9	28
61	0	0
Total	44	137

Hunters by Zone	Actual	Projected
58	120	372
59	192	595
60	113	350
61	68	211

Licences by Zone and Species (Actual from Questionnaire)

Zone	Moose	Elk	1 Deer	2 Deer	1 Bear	2 Bear	Caribou
58	74	41	42	28	28	12	0
59	127	49	67	40	40	17	0
60	73	36	42	19	26	10	0
61	50	21	20	9	13	7	0

Table 91. Provincial Bear Harvest, Hunting Success and Pressure - 1984.

SUMMARY TOTALS FOR SPECIES: BEAR

EZONE	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
GRASS	0	0	0	0.0	0	0.00	1	0.00	0	.	.
FARM	0	0	0	0.0	0	0.00	1	0.00	0	.	.
PARK	152	175	89	58.4	89	2.57	1	0.00	446	5	0.0175
FRINGE	690	758	348	50.4	348	2.98	1	0.46	1,682	5	0.0720
FOREST	3,031	3,254	1,325	43.7	1,325	2.00	1	0.14	7,952	6	0.0482
SHIELD	37	48	16	43.9	16	2.00	1	0.00	109	7	0.0006
	======	=======	======	=====	======	======	=====	======	======	=======	========
TOTAL	3,910	4,235	1,778	45.5	1,778	2.17	1	0.18	10,189	6	0.0257

WOODLAND CARIBOU

A. REVIEW OF 1984 HUNTING SEASON

- Licence sales have ranged between 135 and 280 in the past 9 years; 1984 licence sales were 182, (final (June 1) licences sales figures) with 156 hunters active.
- The projected harvest was 23 animals compared to 27 in 1983 (Table 92).
- Hunter success was 15% and caribou hunters spent 512 days afield.

B. 1985 MANAGEMENT OBJECTIVES

- Population status is unknown. General feelings are that caribou numbers are very low.
- Forestry road development and forest harvest practices may be seriously impacting populations by removing habitat but also by allowing sport and Indian hunter access to the caribou.
- Hunter pressure is very light but hunters may be eliminating or greatly reducing local herds.
- A hunting season will be held in 1985 but in conjunction, a program will be established in an attempt to obtain an estimate of the provincial caribou population. This work will provide the basis for a decision whether or not to hunt woodland caribou in 1986.

SUMMARY: APPENDIX 24 OUTLINES THE 1985 CARIBOU HUNTING REGULATIONS.

Table 92. Caribou Harvest Hunting Success and Pressure - 1984.

SPECIES: WOODLAND CARIBOU TYPE OF LICENSE: 1ST REGULAR LICENSE

WMZ	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE			HUNTER DAYS	HUNTER-DAYS	
						MALES	FEMALES	YOUNG		ANIMAL /	KM2 ZONE
59	9	9	0	0.0	0	0.00	1	0.00	18	.	0.0031
62	4	5	0	0.0	0	0.00	1	0.00	9	.	0.0025
63	9	9	0	0.0	0	0.00	1	0.00	18	.	0.0032
64	9	9	0	0.0	0	0.00	1	0.00	37	.	0.0104
66	30	32	0	0.0	0	0.00	1	0.00	94	.	0.0083
69	26	28	18	71.6	18	0.33	1	0.00	67	4	0.0086
70	13	14	0	0.0	0	0.00	1	0.00	41	.	0.0049
71	4	5	0	0.0	0	0.00	1	0.00	11	.	0.0006
73	30	32	0	0.0	0	0.00	1	0.00	131	.	0.0028
74	4	5	0	0.0	0	0.00	1	0.00	23	.	0.0005
75	20	23	5	23.3	5	4.59	1	0.00	62	14	0.0011
	------	-------	------	-----	------	------	-----	------	------	-------	--------
	156	170	23	14.7	23	0.77	1	0.00	512	22	

PRIMITIVE WEAPONS HUNTING

A. REVIEW OF 1984 HUNTING SEASON

1. White-tailed Deer

- 1 543 archery and 684 muzzleloader licences were sold in 1984. These are final (June 1) figures; however all data analysis are based on figures available in March.

Archery

- 1 241 active archery hunters harvested a total of 341 deer for a success rate of 27% (Tables 10-14).
- Archers required 16 hunter days/kill with 59% of the harvest occurring in the Farmland.
- Harvest structure was 128 bucks/100 does/28 fawns.

Muzzleloaders

- 644 active muzzleloaders killed 453 deer for a success rate of 70% (Tables 15-19).
- Muzzleloaders required only 4 days/kill.
- The Farmland received heaviest harvest pressure accounting for 37% of the kill.

2. Mule Deer (Archery)

- 804 licences were allotted in 1984.
- 701 active bowhunters harvested 270 mule deer with an average of 9 hunter days/animal (Table 44).
- 88% of the harvest occurred in the Grassland zones.
- WMZ 13 & 14 comprise 35% of the harvest, 19% of the harvest occurs in WMZ 9 & 10.
- Success rates varied from 26% in the Farmland to 41% in the Grassland (Table 44).
- Harvest structure was 145 bucks/100 does/52 fawns in the Grassland (Table 44).

3. **Antelope** (Archery)
   - 298 licences were issued.
   - An estimated 203 active archery hunters killed 46 antelope, a 23% success rate.
   - The harvest structure of archer-killed antelope was 566 bucks/100 does/33 kids and required an average of 12 days/kill (Table 55).

4. **Moose**
   - 41 of the 100 available licences for Zone 55 + 68 were purchased.
   - Harvest estimate was only 1 animal.

B. 1985 MANAGEMENT OBJECTIVES

- Maintain all seasons as in 1984.
- Provide antlerless mule deer hunting opportunity for archers.

SUMMARY: Appendix 24 OUTLINES THE PRIMITVE WEAPONS HUNTING REGULATIONS FOR 1985.

Appendix 1. Saskatchewan 1984 Game Bird Seasons

UPLAND GAME BIRDS

	Wildlife Management Zones Open	Season Dates (Inclusive)	Bag Limit
SHARP-TAILED GROUSE	Zones 1-8, and 15-30, including Elbow, Estevan-Cambria, Lomond #3 (at Maxim) and Last Mountain Lake Wildlife Management Units	Oct. 1 - Nov. 10	5 daily 10 possession
Non-residents of Canada may not hunt Sharp-tailed Grouse in Zones 9-14, and 25-28	Zones 9-14	Oct. 1 - Nov. 10	3 daily 6 possession
	Zones 31-47	Sept. 24 - Nov. 10	5 daily 10 possession
	Zones 48-76, including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne Wildlife Management Unit and Bronson Recreation Site	Sept. 10 - Dec. 1	5 daily 10 possession
HUNGARIAN PARTRIDGE	Zones 1-24, including Last Mountain Lake Wildlife Management Unit and starting Oct 1, Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Sept. 24 - Nov. 10	10 daily 20 possession
Non-residents of Canada may not hunt Hungarian Partridge in Zones 9-14, and 25-28	Zones 25-47	Sept. 24 - Nov. 10	5 daily 10 possession
	Zones 48-66, including Fort a la Corne Wildlife Management Unit	Sept. 10 - Nov. 10	5 daily 10 possession
PHEASANTS (Cocks Only)	Zones 1-30, including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Oct. 3 - Nov. 10	3 daily 10 possession
Sask. Residents Only	Zones 1-20, 22, 24, 31, 35 and 38, including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Nov. 26 - Dec. 15	5 daily 10 possession
RUFFED GROUSE	Zones 1-47, including Last Mountain Lake and Elbow Wildlife Management Units; and Moose Mountain and Duck Mountain and Duck Lake Mountain Provincial Parks	Sept. 24 - Nov. 10	5 daily 10 possession
	Zones 48-76, including Fort a la Corne Wildlife Management Unit; Greenwater, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; and Bronson Recreation Site	Sept. 10 - Dec. 1	5 daily 10 possession
SPRUCE GROUSE	Zone 43	Sept. 24 - Dec. 1	5 daily 10 possession
	Zones 48-76 including Fort a la Corne Wildlife Management Unit; Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; and Bronson Recreation Site	Sept. 10 - Dec. 1	5 daily 10 possession
PTARMIGAN	Zones 61-66, 69-76, including Lac La Ronge Provincial Park	Nov. 1 - Feb. 3/85	10 daily 20 possession

WATERFOWL

DUCKS	Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units; and starting Sept. 10, Last Mountain Lake Wildlife Management Unit	Sept. 5 - Dec. 8	8 daily 16 possession
	Zones 43, 48 to 51, and 53 to 76, including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Horsehide Lake and Fort a la Corne Wildlife Management Units; and Bronson Recreation Site	Sept. 1 - Dec. 8	8 daily 16 possession
COOTS AND COMMON SNIPE	Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units; and starting Sept. 10, Last Mountain Lake Wildlife Management Unit	Sept. 5 - Dec. 8	10 daily 20 possession
	Zones 43, 48 to 51, and 53 to 76, including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Horsehide Lake and Fort a la Corne Wildlife Management Units; and Bronson Recreation Site	Sept. 1 - Dec. 8	10 daily 20 possession
SANDHILL CRANES	Zones 19, 21 to 24, 29, 30, 37 to 42, 44, and 52	Sept. 1 - Sept. 11	4 daily 8 possession
	Zones 11 to 14	Sept. 12 - Sept. 16	4 daily 8 possession
GEESE	Zones 1 to 14, 18, 19, 20, and 25 to 29, including Elbow Wildlife Management Unit	Sept. 10 - Dec. 8	5 daily, (2 only may be white-fronted geese) 10 possession (4 only may be white-fronted geese)
Goose season for Canadian Residents and Non-residents of Canada begins on October 3rd in Zones 1-52, 54, 56 and 57	Zones 15, 16, 17, 21, 30 to 42, 44 to 47, and 52, including Valeport Wildlife Management Unit; and starting Sept. 10, Last Mountain Lake Wildlife Management Unit	Sept. 15 - Dec. 8	5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)
	Zones 43, 48 to 51, and 53 to 76, including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Horsehide Lake and Fort a la Corne Wildlife Management Units; and Bronson Recreation Site	Sept. 1 - Dec. 8	5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)

NOTE: Starting Oct. 15: 3 additional Snow or Ross' geese may be taken daily, and 6 additional Snow or Ross' geese may be kept in possession.

NOTE: From Sept. 1 to Oct. 30, inclusive, in Zones 1 to 59, 67, [illegible] and 69, open season for geese includes that portion of the day from one-half hour before sunrise to 12:00 noon local time.

APPENDIX 2. Saskatchewan 1985 Game Bird Seasons

UPLAND GAME BIRDS

	Wildlife Management Zones Open	Season Dates (inclusive)	Bag Limit
SHARP-TAILED GROUSE	Zones 1-47 including Elbow, Estevan-Cambria, Lomond #3 (at Maxim) and Last Mountain Lake Wildlife Management Units	Sept. 30 - Nov. 16	3 daily 6 possession
Non-residents of Canada may not hunt Sharp-tailed Grouse in Zones 9-14, and 25-28	Zones 48-76, including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Fort a la Corne Wildlife Management Unit and Bronson Forest Recreation Site	Sept. 9 - Nov. 30	3 daily 6 possession
HUNGARIAN PARTRIDGE	Zones 1 - 14 and 19	Sept. 23 - Nov. 16	10 daily 20 possession
Non-residents of Canada may not hunt Hungarian Partridge in Zones 9-14 and 25-28	Zones 15-18 and 20-26 including Last Mountain Lake Wildlife Management Unit and starting Sept. 30, Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Sept. 23 - Nov. 16	5 daily 10 possession
	Zones 27-55, including Fort a la Corne Wildlife Management Unit	Sept. 23 - Nov. 16	3 daily 6 possession
PHEASANTS (Cocks Only)	Zones 1-36, including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Oct. 2 - Nov. 16	3 daily 6 possession
Sask. Residents Only may hunt Pheasants	Zones 1-24, 29, 31, 35 and 36, including Elbow, Estevan-Cambria and Lomond #3 (at Maxim) Wildlife Management Units	Dec. 2 - Dec. 21	3 daily 6 possession
RUFFED GROUSE	Zones 1-47, including Last Mountain Lake and Elbow Wildlife Management Units; and Moose Mountain and Duck Mountain Provincial Parks	Sept. 23 - Nov. 16	5 daily 10 possession
	Zones 48-76, including Fort a la Corne Wildlife Management Unit; Greenwater, Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; and Bronson Forest Recreation Site	Sept. 9 - Nov. 30	5 daily 10 possession
SPRUCE GROUSE	Zone 43	Sept. 23 - Nov. 16	5 daily 10 possessio
	Zones 48-76 including Fort a la Corne Wildlife Management Unit; Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; and Bronson Forest Recreation Site	Sept. 9 - Nov. 30	5 daily 10 possession
PTARMIGAN	Zones 61-66, 69-76, including Lac La Ronge Provincial Park	Nov. 4 - Feb. 1/86	10 daily 20 possession

WATERFOWL

DUCKS	Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units; and starting Sept. 18, Last Mountain Lake Wildlife Management Unit	Sept. 11 - Dec. 7	4 daily 8 possession
	Zones 43, 48 to 51, and 53 to 76, including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Horsehide Lake and Fort a la Corne Wildlife Management Units; and Bronson Forest Recreation Site	Sept. 2 - Dec. 7	4 daily 8 possession
COOTS AND COMMON SNIPE	Zones 1 to 42, 44 to 47, and 52, including Elbow and Valeport Wildlife Management Units; and starting Sept. 18, Last Mountain Lake Wildlife Management Unit	Sept. 11 - Dec. 7	10 daily 20 possession
	Zones 43, 48 to 51, and 53 to 76, including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Horsehide Lake and Fort a la Corne Wildlife Management Units; and Bronson Forest Recreation Site	Sept. 2 - Dec. 7	10 daily 20 possession
SANDHILL CRANES Non-residents of Canada may not hunt Sandhill Cranes	Zones 19, 21 to 24, 29, 30, 37 to 42, 44, and 52	Sept. 2 - Sept. 17	5 daily 10 possession
	Zones 11 to 14	Sept. 11 - Sept. 24	5 daily 10 possession
GEESE Goose season for Canadian Residents and Non-residents of Canada begins on October 2nd in Zones 1-52, 54, 56 and 57	Zones 1 to 14, 19, and 22 to 29, including Elbow Wildlife Management Unit	Sept. 28 - Dec. 7	5 daily, (2 only may be white-fronted geese) 10 possession (4 only may be white-fronted geese)
	Zones 15, 16, 17, 18, 20, 21, 30 to 42, 44 to 47, and 52, including Valeport and Last Mountain Lake Wildlife Management Units	Sept. 18 - Dec. 7	5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)
	Zones 43, 48 to 51, and 53 to 76, including Meadow Lake, Nipawin and Lac La Ronge Provincial Parks; Horsehide Lake and Fort a la Corne Wildlife Management Units; and Bronson Forest Recreation Site	Sept. 2 - Dec. 7	5 daily (3 only may be white-fronted geese) 10 possession (6 only may be white-fronted geese)

NOTE: Starting Oct. 13: 3 additional Snow or Ross' geese may be taken daily, and 6 additional Snow or Ross' geese may be kept in possession.

NOTE: From Sept. 2 to Oct. 19, inclusive, in Zones 1 to 59, 67, 68 and 69, any open season for geese includes that portion of the day from one-half hour before sunrise to 12:00 noon local time. (From Oct. 21 to Dec. 7 geese may be hunted all day in all zones).

APPENDIX 3. Recent Saskatchewan Game Bird Hunting Regulations

Appendix 3a. Saskatchewan Duck Hunting Regulations, 1975-1984

Year	Area * (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag)
1975	1-22	Sept 8 - Dec 20	8 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 13	8 (1 redhead or canvasback)
1976	1-22	Sept 8 - Dec 18	8 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 11	8 (1 redhead or canvasback)
1977	1-22	Sept 8 - Dec 17	6 (1 redhead or canvasback)
	23-37	Sept 1 - Dec 10	6 (1 redhead or canvasback)
1978	1-22	Sept 11 - Dec 16	6
	23-37	Sept 1 - Dec 9	6
1979	1-22	Sept 10 - Dec 15	8
	23-37	Sept 1 - Dec 8	8
1980	1-22	Sept 8 - Dec 13	8
	23-37	Sept 1 - Dec 6	8
1981 **	1-22	Sept 7 - Dec 12	8
	23-37	Sept 1 - Dec 5	8
1982	1-22	Sept 8 - Dec 11	8
	23-37	Sept 1 - Dec 4	8
1983	1-22	Sept 7 - Dec 10	8
	23-37	Sept 1 - Dec 3	8
1984 ***	1-42, 44-47, 52	Sept 5 - Dec 8	8
	43, 48-51, 53-76	Sept 1 - Dec 8	8

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* Details omitted concerning some Wildlife Management Units (W.M.U.'s) and Provincial Parks. Hunting has traditionally been allowed in the following areas according to the regulations of the surrounding W.M.Z.'s: Last Mountain Lake, Pasquia and Porcupine W.M.U.'s; Meadow Lake, Nipawin and Lac la Ronge Provincial Parks; and Bronson Recreation Site.

** All special restrictions lifted from Canadian residents and non-residents.

*** 76 new wildlife management zones in effect

Appendix 3b. Saskatchewan Goose Hunting Regulations, 1976-1984
(Details omitted concerning local closures, Wildlife Management Units and Provincial Parks)

Year	Area (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag)
1976	1-6, 8, 9, 12-15, 22	Sept 29 - Dec 18	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 22 - Dec 18	5 (3 whitefronts)
	23-37	Sept 1 - Dec 11	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 23	Morning Hunting Only
1977	1-6, 8, 9, 12-15, 22	Sept 28 - Dec 17	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 21 - Dec 17	5 (3 whitefronts)
	23-37	Sept 1 - Dec 10	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 22	Morning Hunting Only
1978	1-6, 8, 9, 12-15, 22	Sept 27 - Dec 6	5 (2 whitefronts)
	7, 10, 11, 16-21	Sept 20 - Dec 16	5 (3 whitefronts)
	23-37	Sept 1 - Dec 9	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 21	Morning Hunting Only
	All Zones	On and After Oct 16	3 Additional White Geese
1979	1-6, 8, 9, 12-15	Sept 26 - Dec 15	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 19 - Dec 15	5 (3 whitefronts)
	23-37	Sept 1 - Dec 8	5 (3 whitefronts)
	1-25, 28, 30-32	Sept 1 - Oct 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1980	1-6, 8, 9, 12-15	Sept 24 - Dec 13	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 17 - Dec 13	5 (3 whitefronts)
	23-37	Sept 1 - Dec 6	5 (3 whitefronts)
	1-25, 28, 30-32	Sept 1 - Dec 6	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1981	1-6, 8, 9, 12-15	Sept 23 - Dec 12	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 16 - Dec 12	5 (3 whitefronts)
	23-37	Sept 1 - Dec 5	5 (3 whitefronts)
	1-25, 28, 30, 32, 33	Sept 1 - Oct 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1982	1-6, 8, 9, 12-15	Sept 22 - Dec 11	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 15 - Dec 4	5 (3 whitefronts)
	23-37	Sept 1 - Dec 4	5 (3 whitefronts)
	1-25, 28, 30, 32	Sept 1 - Oct 20	Morning Hunting Only
	All Zones	On and After Oct 15	3 Additional White Geese
1983	1-6, 8, 9, 12-15	Sept 21 - Dec 10	5 (2 whitefronts)
	7, 10, 11, 16-22	Sept 14 - Dec 10	5 (3 whitefronts)
	23-37	Sept 1 - Dec 3	5 (3 whitefronts)
	1-25, 28, 30, 32, 33	Sept 1 - Oct 20	Morning Hunting Only
	1-37 (All Zones)	On and After Oct 15	3 Additional White Geese
1984*	1-14, 18, 19, 20, 22-29	Sept 19 - Dec 8	5 (2 whitefronts)
	15, 16, 17, 21, 30-42, 44-47, 52	Sept 12 - Dec 8	5 (3 whitefronts)
	43, 48-51, 53-76	Sept 1 - Dec 8	5 (3 whitefronts)
	1-59, 67, 68, 69	Sept 1 - Oct 20	Morning Hunting Only
	1-76 (All Zones)	On and after Oct 15	3 additional Snow or Ross' Geese

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* 76 new wildlife management zones in effect.

Appendix 3c. Saskatchewan Sharp-tailed Grouse Hunting Regulations, 1975-1984

Year	Area* (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1975	1-6	Sept 29 - Nov 15	4
	7-37	Oct 6 - Nov 15	3
1976	1-6, 8, 18-37	Sept 27 - Nov 13	5
	7, 9-17	Sept 27 - Nov 13	3
1977	1-22	Sept 26 - Nov 19	5
	23-36	Sept 12 - Nov 5	5
	37	Sept 5 - Nov 5	5
	Moose Mountain Park	Sept 26 - Oct 22	5
1978	1-22	Sept 25 - Nov 11	5
	23-33	Sept 18 - Nov 11	5
	34-37	Sept 4 - Nov 4	5
	Moose Mountain Park	Sept 25 - Oct 28	5
1979	1-22	Sept 24 - Nov 10	5
	23-33	Sept 17 - Nov 10	5
	34-37	Sept 3 - Nov 3	5
	Moose Mountain Park	Sept 24 - Oct 27	5
1980	1-33	Sept 22 - Nov 15	5
	34-37	Sept 1 - Nov 29	5
	Moose Mountain Park	Sept 22 - Oct 25	5
1981 **	1-33	Sept 21 - Nov 14	5
	34-37	Aug 31 - Dec 5	5
	Moose Mountain Park	Sept 21 - Oct 24	5
	Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s	Oct 7 - Nov 14	5
1982	1, 7, 8 (east Hwy #2), 9-22	Oct 4 - Nov 13	5
	2-6, 8 (west Hwy #2)	Oct 13 - Nov 13	5
	23-33	Oct 4 - Nov 27	5
	34-37	Aug 30 - Nov 27	5
1983 ***	1-4, 7-15	Oct 3 - Nov 12	5
	5, 6	Oct 3 - Nov 12	3
	16-22	Sept 26 - Nov 12	5
	23-37	Sept 5 - Dec 3	5
1984****	1-8, 15-30	Oct 1 - Nov 10	5
	9-14	Oct 1 - Nov 10	3
	31-47	Sept 24 - Nov 10	5
	48-76	Sept 10 -Dec 1	5

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* Details omitted concerning some Wildlife Management Units and Provincial Parks. Hunting has traditionally been allowed in the following areas according to the regulations pertaining to the surrounding W.M.Z.'s: Elbow, Last Mountain Lake, Fort a la Corne, Estevan-Cambria, Lomond #3, Pasquia and Porcupine W.M.U.'s; Nipawin, Meadow Lake and Lac la Ronge Provincial Parks; and Bronson Recreation Site.

** All special restrictions lifted from Canadian residents; non-residents permitted to hunt in Zone 5.

*** Non-residents of Canada not permitted to hunt in Zones 5, 6, 14, and 15.

**** New WMZ's in effect. Non residents of Canada cannot hunt in WMZ 9-14 and 25-28.

Appendix 3d. Saskatchewan Hungarian Partridge Hunting Regulations, 1975-1984

Year	Area * (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1975	1-6	Sept 29 - Nov 15	5
	7-22	Oct 6 - Nov 15	3
1976	1-6, 8	Sept 27 - Nov 13	6
	7, 9-22	Sept 27 - Nov 13	3
1977	1-15	Sept 26 - Nov 19	7
	16-22	Sept 26 - Nov 19	5
1978	1-9	Sept 25 - Nov 11	6
	10-22	Sept 25 - Nov 11	3
1979	1-16	Sept 24 - Nov 10	6
	17-22	Sept 24 - Nov 10	3
1980	1-16	Sept 22 - Nov 15	6
	17-22	Sept 22 - Nov 15	3
1981 **	1-16	Sept 21 - Nov 14	6
	17-22	Sept 21 - Nov 14	3
	Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s	Oct 7 - Nov 14	6
1982	1, 7, 8 (west Hwy #2), 9-16	Sept 27 - Nov 13	5
	2-6, 8 (east Hwy #2)	Oct 13 - Nov 13	5
	Elbow, Estevan-Cambria and Lomond #3 W.M.U.'s	Oct 4 - Nov 13	5
	17-22	Sept 27 - Nov 13	3
1983 ***	1-12	Sept 26 - Nov 12	10
	Some W.M.U.'s	Oct 3 - Nov 12	10
	13-22	Sept 26 - Nov 12	5
1984****	1-24	Sept 24 - Nov 10	10
	Elbow, Estevan-Cambria and Lomond #3 WMU's	Oct 1 - Nov 10	10
	25-47	Sept 24 - Nov 10	5
	48-55 (including Fort a la Corne)	Sept 10 - Nov 10	5

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* Details omitted concerning some Wildlife Management Units (W.M.U.'s) and Provincial Parks. Hunting has traditionally been allowed in the following areas, according to the regulations pertaining to the surrounding W.M.Z.'s: Elbow and Last Mountain Lake Wildlife Management Units.

** Special restrictions lifted from Canadian residents.

*** Non-residents of Canada not permitted to hunt partridge in Zones 5, 6, 14, and 15.

**** 76 new wildlife wildlife management zones in effect. Non residents cannot hunt in WMZ 9-14 and 25-28.

Appendix 3e. Saskatchewan Pheasant Hunting Regulations, 1975-1984
NOTE: Only Saskatchewan Residents may hunt pheasants

(Cock Birds Only)

Year	Area * (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1975	1-6	Oct 6 - Nov 15	4
	7-17	Oct 6 - Nov 15	3
	6	Dec 8 - Dec 27	4
1976	7, 16, 17	Oct 4 - Oct 23	2
	1-6, 8	Oct 4 - Nov 13	5
	5, 9-15	Oct 4 - Nov 13	2
	6	Dec 6 - Jan 1/77	5
1977	1-17	Oct 3 - Nov 19	5
	6	Dec 5 - Dec 31	5
1978	1-17	Oct 2 - Nov 11	5
	6	Dec 4 - Dec 30	5
1979	1-17	Oct 1 - Nov 10	5
	6	Dec 3 - Dec 29	5
1980	1-17	Oct 6 - Nov 15	5
	6	Dec 1 - Jan 3/81	5
1981	1-17 including Last Mountain Lake, Estevan-Cambria & Lomond #3 W.M.U.'s	Oct 7 - Nov 14	5
	1-5, 8	Nov 30 - Dec 12	5
	6	Nov 30 - Jan 2/82	5
1982	1-17	Oct 7 - Nov 14	5
	1-9, 12, 17	Nov 26 - Dec 18	5
1983	1-17	Oct 5 - Nov 12	5
	1-9, 12, 17	Nov 28 - Dec 17	5
1984**	1-36 (includes Elbow Estevan-Cambria & Lomond WMU's)	Oct 3 - Nov 10	5
	1-20, 23, 24, 31, 35, 36	Nov 26 - Dec 15	5

* Details omitted concerning some Wildlife Management Units (W.M.U.'s). Hunting has traditionally been allowed in Elbow and Last Mountain Lake W.M.U.'s according to the regulations pertaining to the surrounding W.M.Z.'s. Seasons have been held in Estevan-Cambria and Lomond #3 W.M.U.'s since 1981.

** 76 new wildlife management zones in effect.

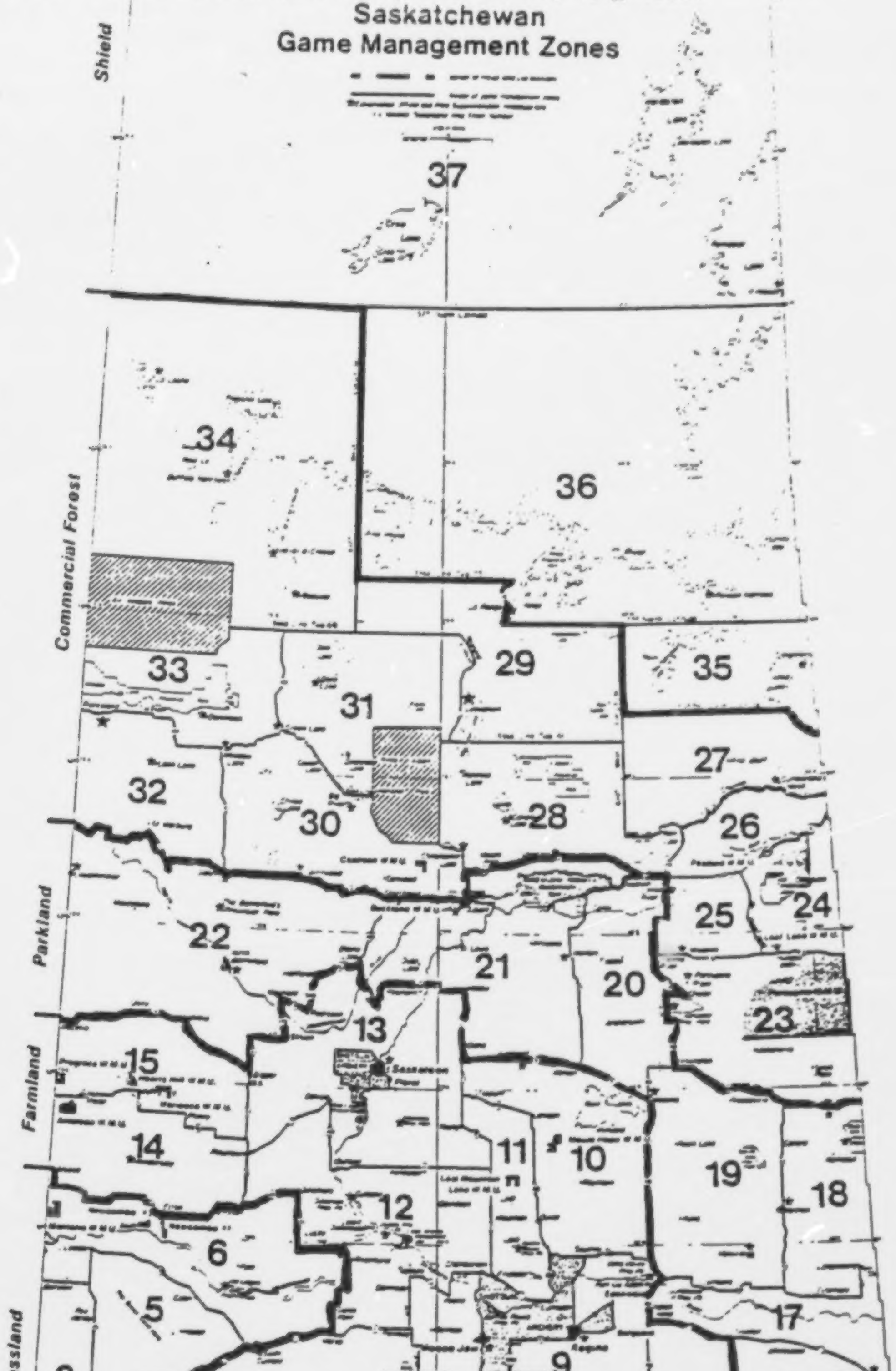
Appendix 3f. Saskatchewan Ruffed Grouse Hunting Regulations, 1975-1984
(Details omitted concerning some Wildlife Management Units and Parks)

Year	Area (Wildlife Management Zone)	Hunting Season Dates	Daily Bag Limit (Possession is twice the daily bag limit)
1975	1-22	Oct 6 - Nov 15	4
	23-37	Sept 22 - Dec 6	4
1976	1-15	Sept 27 - Nov 13	4
	16-22	Sept 27 - Nov 13	6
	23-37	Sept 20 - Dec 4	6
1977	1-15	Sept 26 - Nov 19	5
	16-22	Sept 26 - Nov 19	5
	23-36	Sept 12 - Dec 10	10
	37	Sept 5 - Dec 10	10
	Moose Mountain Park	Sept 26 - Oct 22	10
1978	1-15	Sept 25 - Nov 11	5
	16-22	Sept 25 - Nov 11	10
	23-37	Sept 4 - Dec 2	10
	Moose Mountain Park	Sept 25 - Oct 28	10
1979	1-15	Sept 24 - Nov 10	5
	16-22	Sept 24 - Nov 10	10
	23-37	Sept 3 - Dec 1	10
	Moose Mountain Park	Sept 24 - Oct 27	10
1980	1-22	Sept 22 - Nov 15	5
	23-37	Sept 1 - Dec 6	5
	Moose Mountain Park	Sept 22 - Oct 25	5
1981 **	1-22	Sept 21 - Nov 14	5
	23-37	Aug 31 - Dec 5	5
	Elbow W.M.U.	Oct 7 - Nov 14	5
	Moose Mountain Park	Sept 21 - Oct 24	5
1982	1-22	Sept 27 - Nov 13	5
	23-33	Sept 13 - Nov 27	5
	34-37	Aug 30 - Nov 27	5
	Elbow W.M.U.	Oct 4 - Nov 13	5
	Moose Mountain Park	Nov 1 - Nov 24	5
	Greenwater Lake Park	Nov 1 - Nov 27	5
1983	1-22	Sept 26 - Nov 12	5
	23-37	Sept 5 - Dec 3	5
	Elbow W.M.U.	Oct 3 - Nov 12	5
	Moose Mountain Park	Oct 31 - Nov 26	5
	Greenwater Lake Park	Oct 24 - Dec 3	5
1984*	1-47	Sept 24 - Nov 10	5
	48-76	Sept 10 - Dec 1	5

* 76 new wildlife management zones in effect

** Special restrictions lifted from Canadian residents

Appendix 4a. Saskatchewan Game Management Zones, 1975-1983.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Game Management Zones
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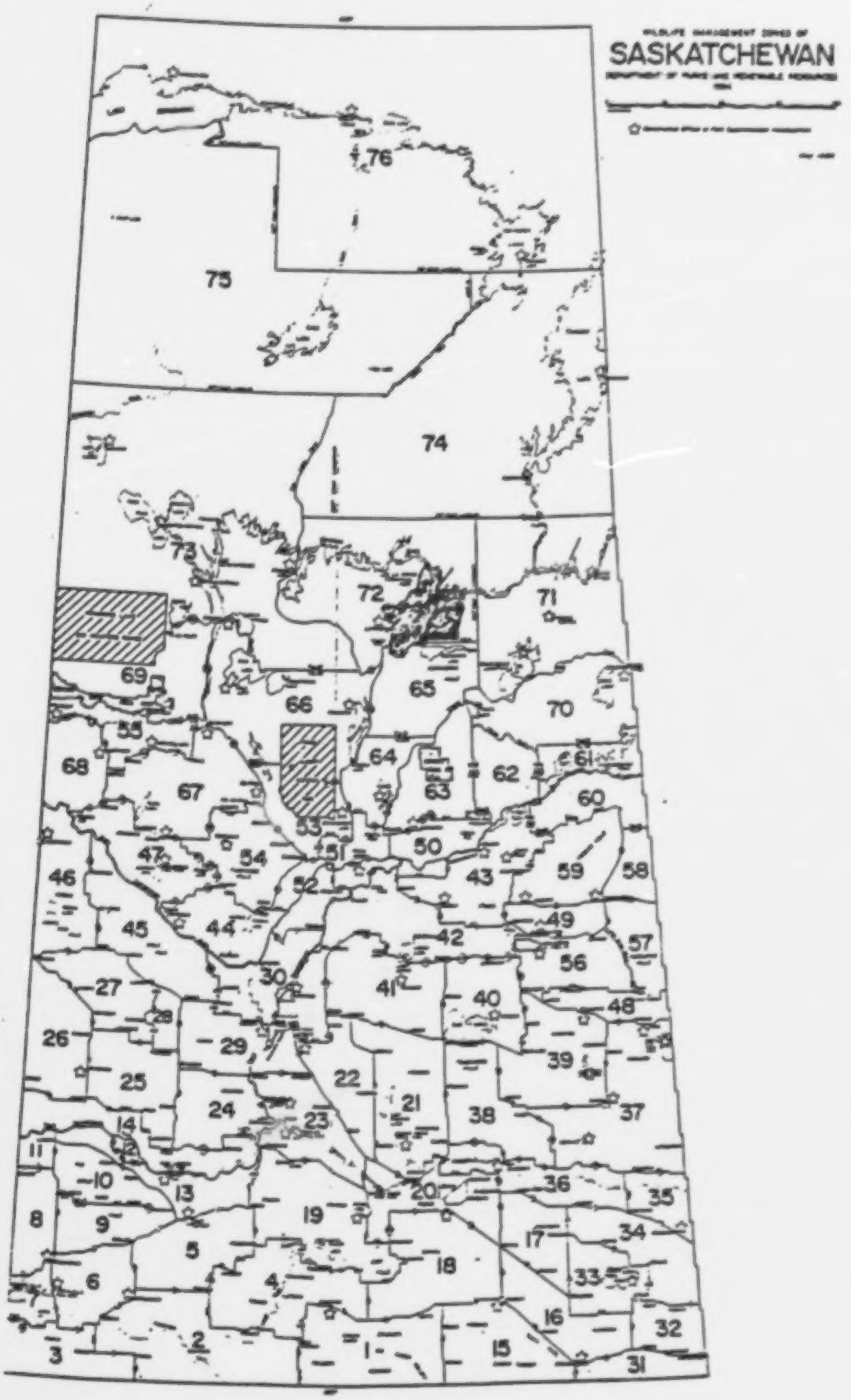
Appendix 4b. Saskatchewan Wildlife Management Zones 1984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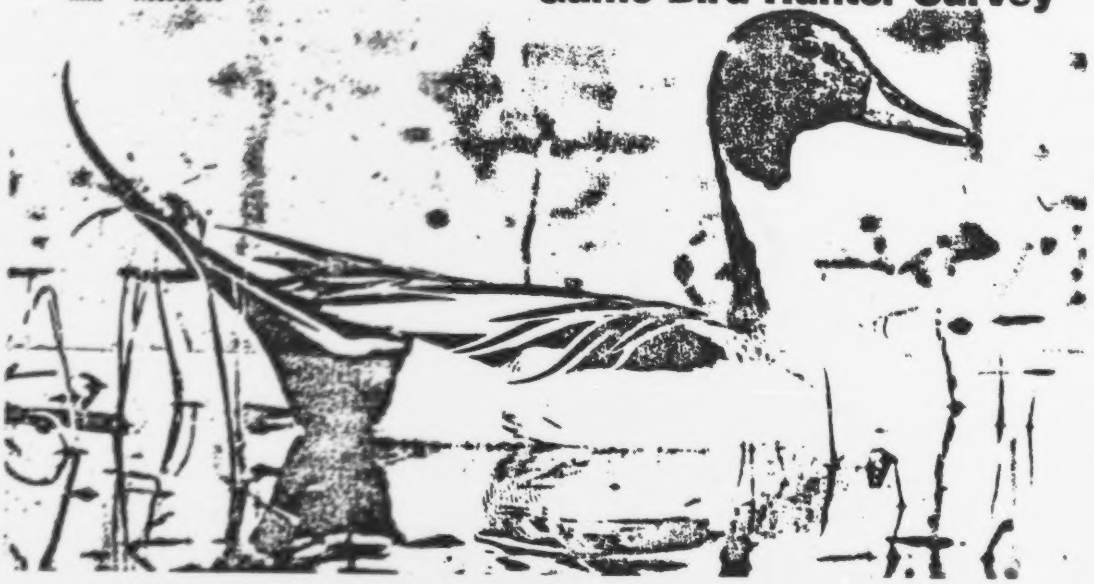
Appendix 5. 1984 Saskatchewan Game Bird Hunter Survey Questionnaire

Saskatchewan
Parks and
Renewable
Resources

1984 Saskatchewan Game Bird Hunter Survey



A Message From The Director of Wildlife

Fellow Sportsman:

We are again asking for your support with the annual Game Bird Hunter Survey.

Please use the attached form to record your bird hunting as it occurs this fall, then mail the form in the postage paid envelope provided when you are finished hunting for the year.

As a hunter, you will be interested in the results of last year's survey. The last page, which is yours to keep, summarizes the 1983 game bird harvest.

This survey provides the information we need to set responsible bag limits and season dates and therefore to enable future hunting recreation in this province. With the seventy-six new game management zones in effect for 1984, this year's survey is more important than ever. Because the names for the survey are selected randomly every year for statistical accuracy, you may be sampled two or more years in a row.

We greatly appreciate your assisting with the Game Bird Hunter Survey. By doing so, you will have contributed to better wildlife management in Saskatchewan.

Hoping your 1984 hunting season is successful,

G.W. Pepper
A/Director
Wildlife Branch
Saskatchewan Parks and Renewable Resources

1984 Saskatchewan Game Bird Hunter Survey

1. If you **did not** purchase a 1984 Saskatchewan Game Bird Licence please check ☑ here ☐ and return immediately, thank you.
2. If you **did** purchase a 1984 Saskatchewan Game Bird Licence please fill out the following questionnaire, and return it as soon as possible upon completion of your hunting season.
3. Check ☑ each hunting licence you purchased in 1984, even if you were unsuccessful.
   Saskatchewan Game Bird Licence ☐ Migratory Game Bird Permit ☐
4. Check ☑ each game bird you hunted in 1984.

Sharp-tailed grouse	☐	Pheasant	☐
Hungarian Partridge	☐	Ducks	☐
Ruffed grouse	☐	Geese	☐
Spruce grouse	☐	Sandhill cranes	☐

5. **Please record all your hunting activities, whether or not you bagged any birds.**
   - **Use a separate line for each date you hunted; if you hunted in more then one game management zone on a given date, use a separate line for each zone. (See example below).**
   - **Use the following guide for recording the amount of time you hunted.**
     (4 or more hours = 1 day less than 4 hours = ½ day)
   - **Check** ☑ Upland Birds or Migratory Birds, or both, depending on what you hunted in each time period recorded.
   - Record the number of birds you bagged.
   - Check ☑ any species you hunted but did not bag.
   - See examples.

	Date	Game Mgmt Zone	Time Hunted		Upland Birds	Migratory Birds	Upland Birds					Migratory Birds						
												Ducks		Geese				
			1 Day	½ Day			Sharp-tailed Grouse	Hungarian Partridge	Ruffed Grouse	Spruce Grouse	Pheasant	Mallards	Others	Canadas	White-fronts	Snows (& Blues)	Ross	Sandhill Cranes
EXAMPLES	Oct. 22	5		√	√		√	2			1							
	Oct. 22	18		√	√	√	1	√				1						
	Nov. 5	45	√			√						2	1	1	1			
	Nov. 9	55		√	√				√									

Hunter Comments?

Nº 11036

HUNTERS: This page is yours to keep.

Please tear off this section before mailing back the questionnaire in the enclosed, postage-paid envelope.

SEPTEMBER

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23	24	25	26	27	28	29
30						

OCTOBER

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14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

NOVEMBER

S	M	T	W	T	F	S
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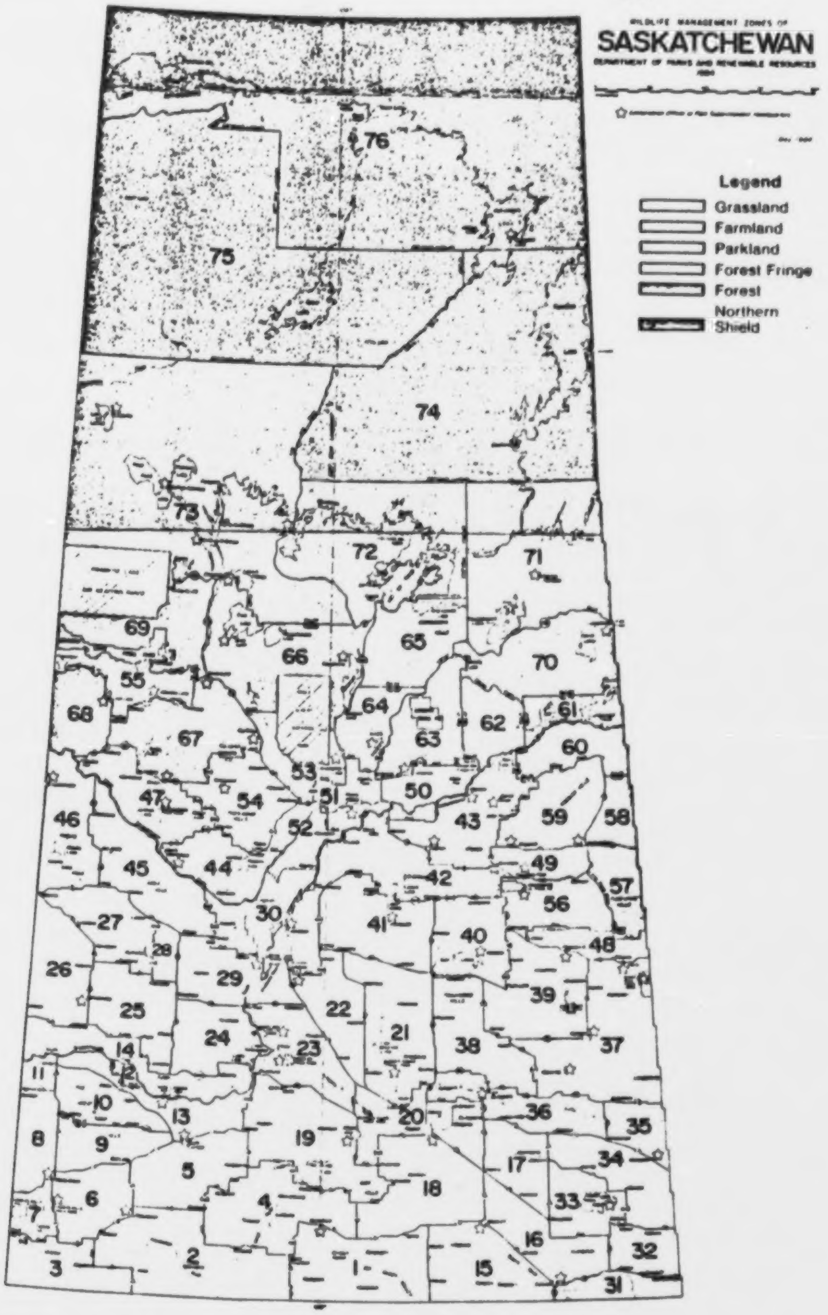
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

DECEMBER

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
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Grassland
Farmland
Parkland
Forest Fringe
Forest
Northern Shield
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Last year's hunting statistics are on the reverse side, for your information.

1983 Game Bird Hunting Activity

Duck hunting improved slightly in 1983 while goose hunters generally enjoyed great success in harvesting a record high of 213,000 geese. Hunting activity in terms of recreation days generated increased by 10% for ducks and 19% for geese from 1982.

Recreation generated by the upland bird resource increased for sharp-tailed grouse, Hungarian partridge, and pheasants but decreased for ruffed grouse and spruce grouse due to a ten year low in ruffed grouse populations.

Saskatchewan resident hunters purchased 47,000 bird licences last fall. Out of province Canadians bought 3,000 licences while non-residents of Canada purchased 3,700 licences. Saskatchewan resident hunters were able to harvest cock pheasants in 1983 under their regular game bird licence and good populations allowed a doubling of the harvest from 1982.

Waterfowl hunters who got into the field spent an average of 2.9 days each while the 28,000 upland bird hunters averaged 2.1 days each in pursuit of grouse, partridge and pheasants.

A summary of the 1983 bird harvest and hunter activity is listed below.

	Harvest				Active Hunters			
	1980	1981	1982	**1983**	1980	1981	1982	**1983**
Ducks	398,000	240,000	292,000	**326,000**	40,000	30,000	34,000	**35,000**
Geese	185,000	159,000	155,000	**213,000**	35,000	29,000	32,000	**36,000**
Sandhill Cranes	4,200	2,200	3,500	**3,000**	1,700	1,000	1,500	**1,200**
Sharp-tailed Grouse	108,000	83,000	52,000	**59,000**	28,000	24,000	20,000	**21,000**
Hungarian Partridge	66,000	64,000	42,000	**61,000**	21,000	20,000	17,000	**19,000**
Ruffed Grouse	92,000	37,000	17,000	**13,500**	18,000	14,000	10,000	**8,800**
Spruce Grouse	12,000	6,000	3,200	**4,000**	3,800	3,100	1,900	**1,600**
Pheasant	12,000	13,000	7,500	**16,000**	4,200	4,800	3,900	**6,300**

More detailed information concerning game bird management can be obtained from Wildlife Branch, Saskatchewan Parks and Renewable Resources, 3211 Albert Street, Regina, Saskatchewan S4S 5W6 or your local Parks and Renewable Resources office.

Saskatchewan

**Saskatchewan
Parks and
Renewable
Resources**

3211 Albert Street
Regina, Canada
S4S 5W6

Your File:
Our File:

November 19, 1984

Fellow Sportsman:

This is a friendly reminder to return the Game Bird Hunter Survey we sent you in September. However, **please disregard this letter if you are planning to do more bird hunting, or if you recently mailed your survey.**

We have enclosed another survey form and a self-addressed, postage-paid envelope in case the first set went astray.

By completing and returning the Game Bird Hunter Survey, you will be providing the Wildlife Branch with essential hunting information which cannot be obtained without your assistance. Information from last year's survey appears on the back of the enclosed form and in the 1984 Hunting Synopsis.

I am sure I can count on you to help in this way with Saskatchewan's wildlife management.

Sincerely,

Wayne Pepper
A/Director
Wildlife Branch
Saskatchewan Parks and Renewable Resources

Appendix 6. 1984 Saskatchewan Game Bird Hunter Survey Follow Up Letter

Appendix 7.

Criteria to be used to determine duck bag limits in Saskatchewan during stabilized hunting regulations, 1979-1984.

1. The duck bag limit in Saskatchewan will be 8 birds per day, 16 in possession with no species restriction except where:

   - $P + M \leq 3.0$ m. or $M \leq 1.75$ m. when the bag limit = 6 per day; 12 in possession.
   - $P + M \leq 2.5$ m. or $M \leq 1.5$ m. when the bag limit = 4 per day; 8 in possession.

   When bag limits identified by P + M differ from M, P + M limits will be implemented only when similar P + M values occur for 2 years in a row.

2. The third option (4 bag limit) is considered a response to a crisis situation and will be considered only when equivalent harvest reductions are implemented throughout the Central and Mississippi Flyways.

(After Prairie Waterfowl Harvest Program 1979-84 - Saskatchewan).

Note: where P is the number of May ponds and M is the number of breeding mallards in southern Saskatchewan (strata 30 to 35) and m = million.

i.e. If the number of May ponds and breeding mallards totals less than 3 million or the breeding mallard population is less than 1.75 million the daily bag and possession limits will be 6 and 12.

Appendix 8. Sharp-tailed Grouse Reproduction* in Saskatchewan, 1984

Wildlife Management Area	Sample Size	% Juveniles	Juveniles/Adult
4	75	45	0.82
GRASSLAND	210	34	0.53
19	115	45	0.82
21	111	58	1.41
23	56	51	1.07
FARMLAND	373	51	1.06
PARKLAND	114	63	1.71
FOREST FRINGE * FOREST	30	70	2.33
PROVINCE	727	49	0.97

* Based on sample of wings from hunter-killed birds. Areas with samples of less than 50 generally not shown.

Appendix 9. Hungarian Partridge Reproduction* in Saskatchewan, 1984

Wildlife Management Area	Sample Size	% Juveniles	Juveniles/Adult
4	211	75	3.05
GRASSLAND	395	68	2.13
19	72	77	3.50
21	66	81	4.50
24	61	70	2.38
26	55	72	2.66
FARMLAND	354	77	3.42
PARKLAND	78	75	3.10
PROVINCE	827	72	2.67

* Based on sample of wings from hunter-killed birds. Areas with samples of less than 50 not shown.

Appendix 10. **Ruffed Grouse Reproduction* in Saskatchewan, 1984**

Wildlife Management Area	Sample Size	% Juveniles	Juveniles/Adult
Farmland	29	65	1.90
Parkland	66	63	1.75
Forest Fringe	25	76	3.16
Forest	85	65	1.93
PROVINCE	205	66	1.97

* Based on sample of wings from hunter-killed birds.

Appendix 11. 1984-85 Midwinter Waterfowl Survey

UNITED STATES SUMMARY
MIDWINTER WATERFOWL SURVEY

19 85

STATE	Atlantic Flyway	Mississippi Flyway	Central Flyway	Pacific Flyway	U.S. Total 1985	U.S. Total 1984
Mallard	145,900	1,968,600	1,037,000	1,648,400	4,799,900	4,165,700
Black duck	221,200	57,700			278,900	287,800
Mottled duck	1,600	52,100	33,000		86,700	92,500
Gadwall	10,900	612,200	174,000	35,500	832,600	1,005,100
Wigeon	29,300	138,200	76,000	425,100	668,600	1,023,700
G-W teal	34,800	581,300	288,000	141,000	1,045,100	839,000
B-W teal	15,500	63,500	12,000	3,700	94,700	87,700
Cinn. teal						
Shoveler	6,500	232,100	54,000	199,800	492,400	638,300
Pintail	34,000	694,200	572,000	859,300	2,159,500	3,583,300
Wood duck	7,900	26,000	12,000	200	46,100	36,800
Whistling duck	3,200		TR		3,200	1,700
Total Dabblers	**510,800**	**4,425,900**	**2,258,000**	**3,313,000**	**10,507,700**	**11,761,600**
Redhead	90,900	15,900	108,000	24,000	238,800	325,800
Canvasback	133,500	72,300	16,000	61,100	282,900	375,900
Scaup	311,300	673,400	76,000	154,500	1,215,200	963,200
Ringneck	84,900	178,100	22,000	12,200	297,200	227,800
Goldeneye	37,600	26,500	33,000	35,800	132,900	127,200
Bufflehead	47,300	2,800	6,000	54,700	110,800	103,500
Ruddy duck	47,900	14,200	14,000	127,400	203,500	345,100
Total Divers	**753,400**	**983,200**	**275,000**	**469,700**	**2,481,300**	**2,468,500**
Eider	163,400				163,400	147,700
Scoter	46,400	TR		113,600	160,000	221,300
Oldsquaw	11,100	3,800		600	15,500	21,500
Harlequin	TR			100	100	
Total Seaducks	**220,900**	**3,800**		**114,300**	**339,000**	**390,500**
Mergansers	**62,600**	**11,500**	**115,000**	**29,900**	**219,000**	**166,400**
Unident. ducks	**2,700**	**1,900**	**6,000**	**17,000**	**27,600**	**109,600**
TOTAL DUCKS	**1,550,400**	**5,426,300**	**2,654,000**	**3,943,900**	**13,574,600**	**14,896,600**
Brant	146,400			13,200	159,600	136,100
Snow goose	189,300	992,700	1,043,000	371,000	2,596,000	2,169,400
Blue goose						
Ross' goose						
White-fronted goose		81,300	156,000	33,100	270,400	272,700
Canada goose	814,200	906,600	735,000	307,400	2,763,200	2,434,700
TOTAL GEESE	**1,149,900**	**1,980,600**	**1,934,000**	**724,700**	**5,789,200**	**5,012,900**
Whistling swan	93,900	400		48,800	143,100	143,000
Trumpeter swan			200	900	1,100	1,500
Mute swan	4,800	600		100	5,500	4,300
TOTAL SWANS	**98,700**	**1,000**	**200**	**49,800**	**149,700**	**148,800**
COOT	**390,400**	**452,400**	**209,000**	**162,000**	**1,213,800**	**1,250,700**
GRAND TOTAL	**3,189,400**	**7,860,300**	**4,797,200**	**4,880,400**	**20,727,300**	**21,309,000**

*TRace=Fewer than 50.

from U.S. Fish and Wildlife Service Data.

Appendix 12. **AREAS OF NEW WILDLIFE MANAGEMENT ZONES**

Zone	Area in Km^2	Zone	Area in Km^2
P.A.N.P.	**3 874**	**PRIMROSE A.W.R.**	**5 987**
1	8 321	2	10 640
3	4 297	4	8 118
5	5 966	6	4 195
7	1 895	8	3 393
9	3 435	10	3 546
11	985	12	344
13	4 084	14	5 580
GRASSLAND TOTAL			**64 799**
15	6 724	16	5 307
17	3 823	18	7 448
19	9 221	20	5 534
21	8 382	22	4 732
23	5 740	24	4 829
25	5 818	26	4 415
27	4 914	28	1 355
29	5 333	30	7 251
FARMLANDS TOTAL			**90 826**
31	2 522	32	2 790
33	3 883	34	5 386
35	2 614	36	5 185
37	11 315	38	6 412
39	7 603	40	5 414
41	7 212	42	7 413
43	6 777	44	4 577
45	7 665	46	5 959
47	5 719		
PARKLANDS TOTAL			**98 446**
48	2 531	49	2 395
50	3 333	51	2 873
52	2 913	53	2 772
54	5 696	55	3 749
FOREST FRINGE TOTAL			**26 262**
56	4 727	57	3 308
58	2 245	59	5 862
60	3 837	61	3 040
62	3 735	63	5 659
64	3 544	65	6 521
* 66	11 280	67	8 675
68	4 158	** 69	7 750
70	8 499	71	17 990
72	18 381	73	45 909
FOREST TOTAL			**165 120**
74	45 416	75	56 558
76	79 825		
NORTHERN SHIELD TOTAL			**181 799**
	PROVINCIAL TOTAL		**637 113**

* excludes P.A.N.P.

** excludes Primrose A.W.R.

Appendix 13. 1984 Saskatchewan Big Game Seasons.

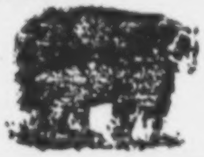
Big Game

1984 Special Big Game Seasons

Saskatchewan Residents Only by Application and Draw

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Limit	General Information
Antelope (tentative)	Zones 1 to 14, and 24 to 26	Oct. 29 - Nov. 3	one antelope, either sex	- Antelope licence quotas will be set after July aerial surveys
Antelope (Archery tentative)	Zones 1 to 14, and 24 to 26	Sept. 3 - Oct. 6	one antelope, either sex	- Antelope archery licences are valid in any open zones during the archery season only
Special Elk	Zones 6 and 7 combined, including Cypress Hills Provincial Park (West Block)	Oct. 22 - Oct. 27	one elk, either sex	- Licence quotas (in brackets) for each zone: 6 and 7 combined (100), 33(100), 50(275), 48, 49, 56 and 57 combined (300)
	Zone 33, including Moose Mountain Provincial Park	Oct. 29 - Nov. 3	one elk, either sex	
	That portion of Zone 50 south of Highway No. 55 including Fort a la Corne Wildlife Management Unit	Sept. 3 - Sept. 22 & Nov. 5 - Nov. 17	one elk, either sex	
	Zones 48, 49, 56 and 57 combined including Greenwater Lake Provincial Park	Oct. 22 - Oct. 27	one elk, either sex	
Special Moose	Zones 48, 49 and 56 combined, 57 to 62 and 67, including Leaf Lake Wildlife Management Unit	Sept. 17 - Sept. 22 & Nov. 5 - Nov. 17	one moose, either sex	- Licence quotas (in brackets) for each zone: 37(100), 50(100) 48, 49 and 56 combined (300), 57(100), 58(200), 59(400), 60(200), 61(100), 62(50), 67(150), 55 and 68 combined (150), Greenwater Lake Provincial Park (50)
	Zones 55 and 68 combined, including Bronson Recreation Site	Nov. 5 - Nov. 17	one moose, either sex	
	Zone 37, including Duck Mountain Provincial Park	Nov. 5 - Nov. 10	one moose, either sex	
	Greenwater Lake Provincial Park Only	Nov. 5 - Nov. 10	one moose, either sex	
	Zone 50 including Fort a la Corne Wildlife Management Unit	Sept. 17 - Sept. 29 & Nov. 5 - Nov. 17	one moose, either sex	
Moose (Archery)	Zones 55 and 68 combined, including Bronson Recreation Site	Sept. 17 - Sept. 29	one moose, either sex	- Archery moose licences valid only during the archery season, Sept. 17 to Sept. 29: quota (100)
Mule Deer	Zones 1, 3 to 8, 19, 23 to 27, 29 30 and 45, including Elbow Wildlife Management Unit and Cypress Hills Provincial Park (West Block)	Nov. 5 - Nov. 10	one mule deer either sex	
	Zone 46	Nov. 12 - Nov. 17	one mule deer, either sex	- Licence quotas (in brackets) for each zone: 1(100), 2(900), 3(300), 4(100), 5(300), 6(400), 7(300), 8(50), 9(400), 10(700), 12(150), 13(400), 14(600), 19(150), 23(200), 24(200), 25(50), 26(50), 27(50), 29(100), 30(100), 45(50), 46(100)
	Zones 2, 9, 10, 12, 13 and 14 including Saskatchewan Landing Provincial Park Note: Muzzleloading firearms only in Saskatchewan Landing Provincial Park	Nov. 1 - Nov. 3 or Nov. 5 - Nov. 7	one mule deer, either sex	
Antlerless Mule Deer	Zones 2, 9 and 11 to 14, including Saskatchewan Landing Provincial Park Note: Muzzleloading firearms only Saskatchewan Landing Provincial Park	Nov. 9 and 10 or Nov. 12 and 13	one antlerless mule deer	- "Antlerless Mule Deer" means a doe or a 1984 fawn - Licence quotas (in brackets) for each zone: 2(1000), 5(200), 6(200), 9(600), 10(3000), 11(200), 12(200), 13(400), 14(600)
	Zone 10	Nov. 9 and 10, Nov. 12 and 13, or Nov. 15 and 16	one antlerless mule deer	
	Zones 5 and 6	Nov. 12 and 13	one antlerless mule deer	
Mule Deer (Archery)	Zones 1 to 8, 13, 14, 19, 23 to 27, 29, 30, 45 and 46, including Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 3 - Oct. 6	one mule deer, either sex	- Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 19, 23 to 27, 29, 30, 45 and 46 combined (600), 9 and 10 combined (150); 12(50)
	Zones 9, 10 and 12	Sept. 10 - Sept 22	one mule deer, either sex	- Archery licences valid only in archery season

Species	Wildlife Management Zones Open	Season Dates (inclusive)	Limit	General Information
White-tailed Deer (Primitive Weapons, Sask. Residents Only)	Zones 1 to 8, 11 to 36, 38 to 55, 62 to 66, and 70 to 76, including Elbow, Horsehide Lake, and Fort a la Corne Wildlife Management Units, Nipawin & Lac La Ronge Provincial Parks	Archery Sept. 3 - Oct. 13 Muzzleloading Rifles Oct. 1 - Oct. 13	one white-tailed deer, either sex	- An unsuccessful archer may purchase a first or second regular licence to hunt white-tailed deer by turning in unused archery licences at any department office - White-tailed deer archery licences are valid in the shotgun-archery-muzzleloader areas of Zones 20 and 30 during the Nov. 19 to Dec. 1 season
	Zones 9 and 10	Archery Sept. 10 - Oct. 13 Muzzleloading Rifles Oct. 1 - Oct. 13	one white-tailed deer, either sex	
	Zone 37, including Duck Mountain Provincial Park	Archery Sept. 3 - Oct. 13 Muzzleloading Rifles Oct. 1 - Oct. 13	one antlered white-tailed deer	- "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres in length as measured from the outside of the skull to the tip. - Muzzleloading rifle white-tailed deer licences are valid only in muzzleloading season Oct. 1 to Oct. 13 except in the shotgun-archery-muzzleloader areas of Zones 20 and 30
	Zones 56 to 61 and 67 to 69, including Meadow Lake and Greenwater Lake Provincial Parks, and Bronson Recreation	Archery Sept 3 - Oct 13 Muzzleloading Rifles Oct. 1 - Oct. 13	two white-tailed deer, either sex separate licences required	- Second white-tailed deer licences are valid only in Zones 56 to 61 and 67 to 69
White-tailed Deer (Sask. Residents, Canadian Residents and Non-residents)	Zones 62 to 66, including Nipawin Provincial Park	Nov. 19 - Dec. 1	one white-tailed deer, either sex	
	Zones 70 to 78, including Lac La Ronge Provincial Park	Nov. 5 - Dec. 1	one white-tailed deer, either sex	
	Zones 56 to 61, and 67 to 69, including Leaf Lake Wildlife Management Unit, Greenwater Lake and Meadow Lake Provincial Parks, and Bronson Recreation Site	Oct. 8 - Oct. 20 & Nov. 12 - Dec. 1	two white-tailed deer, either sex, separate licences required	- Second white-tailed deer licences are valid only in Zones 56 to 61 and 67 to 69
White-tailed Deer (Sask. Residents and Canadian Residents)	Zones 1 to 14, and 24 to 26	Sask. Residents Nov. 19 - Nov. 24 Canadian Residents Nov. 19 - Nov. 24	one white-tailed deer either sex	- Holders of unused first primitive weapons licences may hunt white-tailed deer in the shotgun-archery-muzzleloader areas of Zones 20 and 30 during the regular season
	Zones 15 to 23, 27 to 36 and 38 to 55, including Brokenshell No. 1 and No. 2 Estevan-Cambria, Lomond No. 3 (at Maxim); Elbow, Fort a la Corne, Horsehide Lake and Last Mountain Lake Wildlife Management Units; and Moose Mountain Provincial Park	Sask. Residents Nov. 19 - Dec. 1 Canadian Residents Nov. 26 - Dec. 1	one white-tailed deer, either sex	- **Please refer to enclosed map for the portion of Management Zones 20 and 30 restricted to shotgun, archery, and muzzleloading rifle hunting only.**
	Zone 37, including Duck Mountain Provincial Park	Sask. Residents Nov. 19 - Dec. 1 Canadian Residents Nov. 26 - Dec. 1	one antlered white-tailed deer	- "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres in length as measured from the outside of the skull to the tip. **"Roads and Trails Only". Hunters in Zones 15 to 17, 20 and 30 to 34 must keep vehicles on roads and road allowances with trails.**
	Zones 31 and 32	Sask. Residents Dec. 3 - Dec. 8	one antlerless white-tailed deer	"Antlerless white-tailed deer" means a doe or a 1984 fawn
White-tailed Deer with Guided Moose	Zones 60 and 61	Persons holding valid deer licences and possessing guided moose licences. Oct. 1 - Oct. 20 & Nov. 5 - Nov. 17	two white-tailed deer, either sex separate licences required	
	Zone 69	Persons holding valid deer licences and possessing guided moose licences Sept. 10 - Sept. 22 Oct. 1 - Oct. 6 & Nov. 5 - Nov. 17	two white-tailed deer, either sex separate licences required	

	Zone 62	Persons holding valid deer licences and possessing guided moose licences, Oct. 1 - Oct. 20 & Nov. 5 - Nov. 17	one white-tailed deer, either sex	
	Zones 70 to 76, including Lac La Ronge Provincial Park	Persons holding valid deer licences and possessing guided moose licences, Sept. 10 - Sept. 22 Oct. 1 - Oct. 13 & Nov. 5 - Nov. 17	one white-tailed deer, either sex	
Regular Elk (Sask. Residents Only)	Zones 48, 49, 50 (North of Highway 55), 56 to 64, 66 and 69, including Nipawin Provincial Park, and the northeast portion of Meadow Lake Provincial Park north of 17th base line	Sept. 17 - Sept. 29 & Dec. 3 to Dec. 8	one antlered elk	- "Antlered Elk" means any elk having an antler or antlers at least 15 centimetres in length as measured on the outside curve of the antler from the skull to the tip. Watch for signs in Meadow Lake Provincial Park
	Zone 53, including Cookson Wildlife Management Unit	Nov. 5 - Dec. 15	one elk, either sex	- Note: Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit
Regular Moose (Sask. Residents Only)	Zones 48, 49, 53, 56 to 67 and 69, including Leaf Lake Wildlife Management Unit and Nipawin Provincial Park	Oct. 8 - Oct. 13	one bull or, one 1984 calf moose	- "Bull Moose" means a male moose one or more years old. "Calf Moose" means any moose born in 1984. "Cow Moose" means a female moose one or more years old
Early Season	Zones 70 to 76, including Lac La Ronge Provincial Park	Sept. 3 - Sept. 22	one bull or one 1984 calf moose	- Successful applicants for a special moose licence are not eligible to purchase a regular moose licence
Late Season	Zones 48, 49 and 55 to 59, including Leaf Lake Wildlife Management Unit	Nov. 19 - Dec. 1	one bull or one 1984 calf moose	- The antlers of bull moose and the lower jaw of calf moose must accompany the carcass
	Zones 53, 55 and 60 to 69, including Nipawin Provincial Park and Bronson Recreation Site	Nov. 19 - Nov. 24	one bull or one 1984 calf moose	
	Zones 70 to 76, including Lac La Ronge Provincial Park	Nov. 5 - Dec. 1	one bull or one 1984 calf moose	
Guided Moose (Canadian Residents and Non-residents)	Zones 60, 61 and 62	Oct. 1 - Oct. 20 & Nov. 5 - Nov. 24	one bull or one 1984 calf moose	- The antlers of bull moose and the lower jaw of calf moose must accompany the carcass.
	Zone 69	Sept. 10 - Sept. 22 Oct. 1 - Oct. 6 & Nov. 5 - Nov. 24	one bull or one 1984 calf moose	- Services of a registered guide must be used
	Zones 70 to 76, including Lac La Ronge Provincial Park	Sept. 10 - Sept. 22 Oct. 1 - Oct. 13 & Nov. 5 - Dec. 1	one bull or one 1984 calf moose	- 400 Guided Moose Licences are available. Quotas (in brackets) for each zone: 60(80), 61(115), 62(15), 69(15), 70(10), 71(45), 72(45), 73(10), 74(45), 75(10), 76(30)
Woodland Caribou (Sask. Residents Canadian Residents and Non-residents)	Zones 58, 59 and 61 to 66, including Nipawin Provincial Park	Nov. 19 - Dec. 1	one woodland caribou, either sex	- Canadian residents and Non-residents must use the services of a registered guide when hunting caribou
	Zones 70 to 75, including Lac La Ronge Provincial Park	Sept. 10 - Sept. 22 Oct. 1 - Oct. 13 & Nov. 5 - Dec. 8	one woodland caribou, either sex	
Barren-ground Caribou (Sask. Residents of Zone 76 only)	Zone 76	Nov. 1 - Mar. 2 1985	two barren-ground caribou, either sex separate licences required	- Residents of Zones 76 means Saskatchewan residents living in Zone 76 during the past three months
Bear (Sask. Residents, Canadian Residents and Non-residents) 	Zones 42, 43 and 46 to 76, including Horseshide Lake and Leaf Lake Wildlife Management Units, and Bronson Recreation Site	Aug. 27 - Oct. 20	two bear, either sex separate licences required	- Unused spring bear licences are valid in fall seasons
	Lac La Ronge, Meadow Lake, Nipawin Duck Mountain Provincial Parks	Sept. 5 - Oct. 20	two bear, either sex; separate licences required	
	Fort a la Corne Wildlife Management Unit only	Sept. 24 - Oct. 20	two bear, either sex; separate licences required	
	Note: A person hunting in zones 58 to 61 during an August, September or October big game season may obtain two free bear seals with each valid big game licence. One bear, either sex, can be taken per seal while hunting under the big game licence for which the bear seals were issued. Once the original big game licence has been filled any unused free bear seals are no longer valid for hunting.			- Zones 58 to 61 free bear seals are available at department offices only

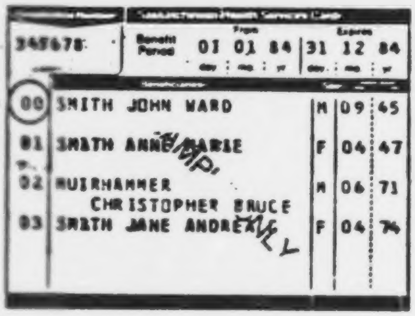
Appendix 14. 1984 Saskatchewan Big Game Draw Information Sheet and Application Form.

Saskatchewan
Parks and
Renewable
Resources

1984 Saskatchewan Big Game Draw Information Sheet

(Residents of Saskatchewan Only)

1. Only Saskatchewan residents may apply for Big Game Draw licences. Applications from persons age 15 or younger will not be accepted. Applications will only be accepted on 1984 application envelopes.
2. **Persons 16 or 17 years of age and all first time hunters** must hold a Firearm or Hunter Safety certificate before applying.
3. **Deadline:** Applications must be received at the S.P.R.R. office, 3211 Albert Street, Regina, no later than 5:00 p.m. C.S.T., **July 7, 1984** to be eligible. Post Office date stamps are not acceptable.
4. No person shall submit an application if their hunting rights are restricted for either a Wildlife Act conviction or a firearm accident as of July 7, 1984.
5. Each applicant **must** list their full registration and beneficiary number from their 1984 Saskatchewan Health Services Card. **Do not use** Health Region, M.S.I., or G.M.S. card numbers. Print your registration number first, followed by **your** individual beneficiary number in this manner 345678-00 (see sample S.H.S. Card). Permanent members of the Armed Forces and R.C.M.P. use regimental number and "X" appropriate box on application.



345678
Benefit Period 01 01 84 | 31 12 84

00	SMITH JOHN WARD	M	09	45
01	SMITH ANNE MARIE	F	04	47
02	MUIRHAMMER CHRISTOPHER BRUCE	M	06	71
03	SMITH JANE ANDREA	F	04	74

Each person on this card has a separate beneficiary number. Use your own beneficiary number (adjacent to your name) following your registration number on your application.

6. Complete your application form using your name **exactly** as it appears on your S.H.S. Card. Be sure to **complete both sides** of the application.
7. **Applications will be rejected** for any of the following reasons:
   - — no licence fees, incorrect fees or unsigned cheques;
   - — containing false or incomplete information;
   - — containing special instructions;
   - — containing ineligible names;
   - — having a person's name appear on more than one application envelope for a particular species.

   NOTE: Supplying false or misleading information is a violation of The Wildlife Act.
8. A person may apply only **once** for each species: Elk, Moose, Mule Deer or Antelope (either archery or regular — **not both**). Please print the species in the appropriate box on the application form. A separate application is required for each species.
9. Each application must be signed by one of the applicants. This person is responsible for the validity of the information provided.
10. Successful applicants for a Special Elk Licence **are not** eligible to purchase a Regular Elk Licence. Successful applicants for a Special Moose Licence are not eligible to purchase a Regular Moose Licence.
11. **Licence fee:** $30.00 for each applicant — same fee for all species. Licence fee **must** be included with the application. Send a cheque or money order (**no cash**) payable to Saskatchewan Parks and Renewable Resources. From 1 to 4 persons may apply on one application envelope.
12. **Priority Pools:** The following priority pools apply to all species and seasons:
   "Super A" — applications listing applicants who qualified for "A" Pool and applied in 1983 but were not drawn for that species (1st priority) (see page 4 for details);
   "A" — applications listing persons who did not have a licence for a particular species in 1982 and 1983 (2nd priority);
   "B" — applications listing persons who obtained a licence (either archery or regular) in 1982 (3rd priority);
   "C" — applications listing persons who had a licence (either archery or regular) in 1983 (4th priority).

   Please Note: Applications will receive the lowest priority of any applicant on the application. For example, if you apply on the same application with a person who was drawn for that species in 1982, your application will go into Pool "B".

13. **Zone Preference:** You may select up to six management zones. List them in order of preference in boxes 1 to 6 by writing in the zone numbers. **REMEMBER: THERE ARE NEW WILDLIFE MANAGEMENT ZONES FOR 1984. CHECK THE MAP ON THE INSIDE PAGE. (PAGE 5)**

14. **Split Seasons:** No choice will be available between the separate parts of the either-sex Mule Deer seasons in Zones 2, 9, 10, 12, 13 and 14 or Antlerless Mule Deer seasons in Zones 2, 9 to 14, inclusive. Except for the antlerless season in Zone 10, half of the applicants drawn for each zone will be assigned to hunt in the earliest season; the half drawn later will hunt in the second season. Zone 10 Antlerless Mule Deer has three split seasons and a third of the licences will be assigned to each season.

    ***If you are not willing to hunt in either part of the split seasons, apply only for zones where split seasons do not occur.

15. **Antlerless Mule Deer Season:** Those persons wishing to hunt in the antlerless Mule Deer season in Zones 2, 5, 6 and 9 to 14, inclusive, if unsuccessful in the regular Mule Deer draw, should place an "X" in the box marked "antlerless", otherwise leave blank (see page 4 for details).

16. **Archery Seasons:** Place an "X" in the box marked "archery" if you are applying for the Antelope, Mule Deer or Moose Archery seasons - otherwise leave blank. Archery licences are valid only during the archery season.

    Note: Mule Deer applicants must list their zone preference on the application.

17. Should you require additional information, please contact your nearest Saskatchewan Parks and Renewable Resources office.

☐ **Important for 1984**

Season Dates (Inclusive) and Tentative Licence Quotas (In Brackets)

Remember: There are New Wildlife Management Zones for 1984.
Six zone choices are now available on each application.

Special Elk Season (Either Sex)	Sept. 3 - Sept. 22 & Nov. 5 - Nov. 17	Zone 50, south of Highway No. 55, including Fort a la Corne Wildlife Management Unit	(275)
	Oct. 22 - Oct. 27	*Zones (48, 49, 56 and 57 combined), including Greenwater Provincial Park and the Porcupine Wildlife Management Unit	(300)
	Oct. 29 - Nov. 3	Zone 33, including Moose Mountain Provincial Park	(100)
	Oct. 22 - Oct. 27	*Zones 6 and 7 combined, including Cypress Hills Provincial Park, West Block	(100)

*NOTE — Designate Zone 6 for the combined Zones 6 and 7.
— Designate Zone 48 for the combined Zones 48, 49, 56 and 57.
— Licences in combined zones will be valid in all zones designated.

Special Moose Season (Either Sex)	Sept. 17 - Sept. 22 & Nov. 5 - Nov. 17	* Zones (48, 49 and 56 combined), 57 to 62, and 67, including Pasquia, Leaf Lake, and Porcupine Wildlife Management Units
	Nov. 5 - Nov. 10	*Zones 68 and 55 combined, including Bronson Recreation Site
	Nov. 5 - Nov. 10	Zone 37, including Duck Mountain Provincial Park
	Nov. 5 - Nov. 10	*Zone 56G, Greenwater Provincial Park only
	Sept. 17 - Sept. 29 & Nov. 5 - Nov. 17	Zone 50, including Fort a la Corne Wildlife Management Unit

*NOTE: — Designate (56G) for Greenwater Lake Provincial Park in the zone preference box on the

— Designate Zone 48 for the combined Zones 48, 49, and 56.
— Designate Zone 68 for the combined Zones 68 and 55.
— Licences in combined zones will be valid in all zones designated.

New Zone Moose Quotas:

Zone 37 -	(100)	Zone 60 -	(200)
Zones 48, 49 & 56 -	(300)	Zones 61 -	(100)
Zone 57 -	(100)	Zone 62 -	(50)
Zone 58 -	(200)	Zone 67 -	(150)
Zone 59 -	(400)	Zones 68 & 55 -	(150)

Zone 50, including Fort a la Corne Wildlife Management Unit - (100)
Zone 56G, Greenwater Provincial Park only - (50)

Mule Deer Season (Either Sex)	Nov. 1 - Nov. 3 **split**	Zones 2, 9, 10, 12, 13 and 14 Zone 2 (450), Zone 9 (200), Zone 10 (350), Zone 12 (75), Zone 13 (200), Zone 14 (300)
	Nov. 5 - Nov. 7	Zones 2, 9, 10, 12, 13 and 14 Zone 2 (450), Zone 9 (200), Zone 10 (350), Zone 12 (75), Zone 13 (200), Zone 14 (300)
	Nov. 5 - Nov. 10	Zones 1, 3 to 8, 19, 23 to 27, 29, 30 and 45, including Cypress Hills Provincial Park (West Block) and the Elbow Wildlife Management Unit
	Nov. 12 - Nov. 17	Zone 46

***NOTE:** Zone 13 and 14 Mule Deer hunters can hunt in Saskatchewan Landing Provincial Park, with muzzleloading rifles only.

New Zone Mule Deer Quotas

Zone 1 -	(100)	Zone 7 -	(300)	Zone 14 -	(600)	Zone 27 -	(50)
Zone 2 -	(900)	Zone 8 -	(50)	Zone 19 -	(150)	Zone 29 -	(100)
Zone 3 -	(300)	Zone 9 -	(400)	Zone 23 -	(200)	Zone 30 -	(100)
Zone 4 -	(100)	Zone 10 -	(700)	Zone 24 -	(200)	Zone 45 -	(50)
Zone 5 -	(300)	Zone 12 -	(150)	Zone 25 -	(50)	Zone 46 -	(100)
Zone 6 -	(400)	Zone 13 -	(400)	Zone 26 -	(50)		

Antlerless Mule Deer Season (Antlerless Animals Only)	Nov. 9 and Nov. 10 **split**	Zones 2, 9 to 14 Zone 2 (500), Zone 9 (300), Zone 10 (1000), Zone 11 (75), Zone 12 (100), Zone 13 (200), Zone 14 (300)
	Nov. 12 and Nov. 13 **split**	Zones 2, 9 to 14 Zone 2 (500), Zone 9 (300), Zone 10 (1000), Zone 11 (75), Zone 12 (100), Zone 13 (200), Zone 14 (300)
	Nov. 15 and Nov. 16	Zone 10 only (1000)
	Nov. 12 and Nov. 13	Zones 5 and 6 Zone 5 (300), Zone 6 (200)

New Zone Antlerless Mule Deer Quotas

Zone 2 -	(1000)	Zone 11 -	(150)
Zone 5 -	(200)	Zone 12 -	(200)
Zone 6 -	(200)	Zone 13 -	(400)
Zone 9 -	(600)	Zone 14 -	(600)
Zone 10 -	(3000)		

***NOTE:** See Page 4 for details.

Antelope Season (Either Sex)	Oct. 29 - Nov. 3	*Zones 1 to 7, 9, 10, 8 and 11 combined, 12 and 13 combined, 14, 24 to 26 Antelope quotas will be set after July surveys have been completed. If an Antelope season is held, licences will be issued on a zone basis. List zone preference on application.

***NOTE:** — Designate Zone 8 for combined Zones 8 and 11.
— Designate Zone 12 for combined Zones 12 and 13.
— Licences in combined zones will be valid in all zones designated.

Archery Seasons (Bow and Arrows Only)	**Mule Deer** (Either Sex) Sept. 3 - Oct. 6	Zones 1 to 8, 13, 14, 19, 23 to 27, 29, 30, 45 and 46 (600 licences valid in any of these zones)
	Sept. 10 - Sept. 22	Zones 9 and 10 combined (150), Zone 12 (50)
	Antelope (Either Sex) Sept. 3 - Oct. 6	Zone 1 to 14, 24 to 26 (300) licences valid in any of these zones)
	***Moose** (Either Sex) Sept. 17 - Sept. 29	Zones 68 and 55 combined, including Bronson Recreation Site (100)

***NOTE:** — Designate Zone 68 for combined Zones 68 and 55.
— Licences will be valid in both zones.

Antlerless Mule Deer Licences Available

Although the 1983 antlerless mule deer season was popular with the sport hunters and reduced the herd by about 1,300 animals, high numbers of deer and serious problems with crop damage has made it necessary to put more pressure on these animals in 1984.

Persons who apply to hunt either-sex mule deer in management zones 2, 5, 6, 9 to 14 inclusive may check the "antlerless" box on their application envelope and be eligible for an antlerless licence if they fail to get an either sex tag.

Antlerless mule deer licences will be issued on a priority pool basis, **but getting drawn will not affect your position in the 1985 either-sex mule deer draw.** For example, if you are a "B" Pool applicant for mule deer this year, and receive an antlerless tag in the mail, you will still advance to the "A" Pool for either-sex mulies in 1985.

1983 Draw Results and Super A Pool

The Super A Pool was introduced in 1983 to better the odds of being draw for hunters who remained in the A Pool for several years. Applicants who were not drawn from the the A Pool in 1983 will be eligible for the Super A Pool in 1984, if they apply. In 1984, the odds of being drawn for elk will drop to about 1 in 7 if all potential Super A Pool applicants apply.

The following table shows what happened last year in the Big Game Draw and lists the maximum number of eligible applications for Super A Pool in 1984.

Regular Draw — 1983

Species	Licences Available	Eligible Super A Applicants	*** Chance	Eligible Pool A Applicants	*** Chance	Eligible Pool B Applicants	*** Chance	Eligible Pool C Applicants	*** Chance	Total No. of Eligible Applicants	Eligible Super A Applicants 1984
Elk	875	2,908	30%	5:190	0%	319	0%	77	0%	8.494	7.200
Moose	1,950	576	100%	2,996	46%	783	0%	268	0%	4,623	1,600
Mule Deer	5,750	1,068	100%	6,936	68%	1,953	0%	1,314	0%	11,271*	2,200
Antlerless Mule Deer	1,450	0		857	100%	921	64%	869	0%	2,847**	
Antelope	2.400	687	100%	3.671	47%	766	0%	306	0%	5.430	2.000
	12.425	5.239		19.650		4.742		2.834		30.655	13.000

* includes 2,647 antlerless mule deer applicants.

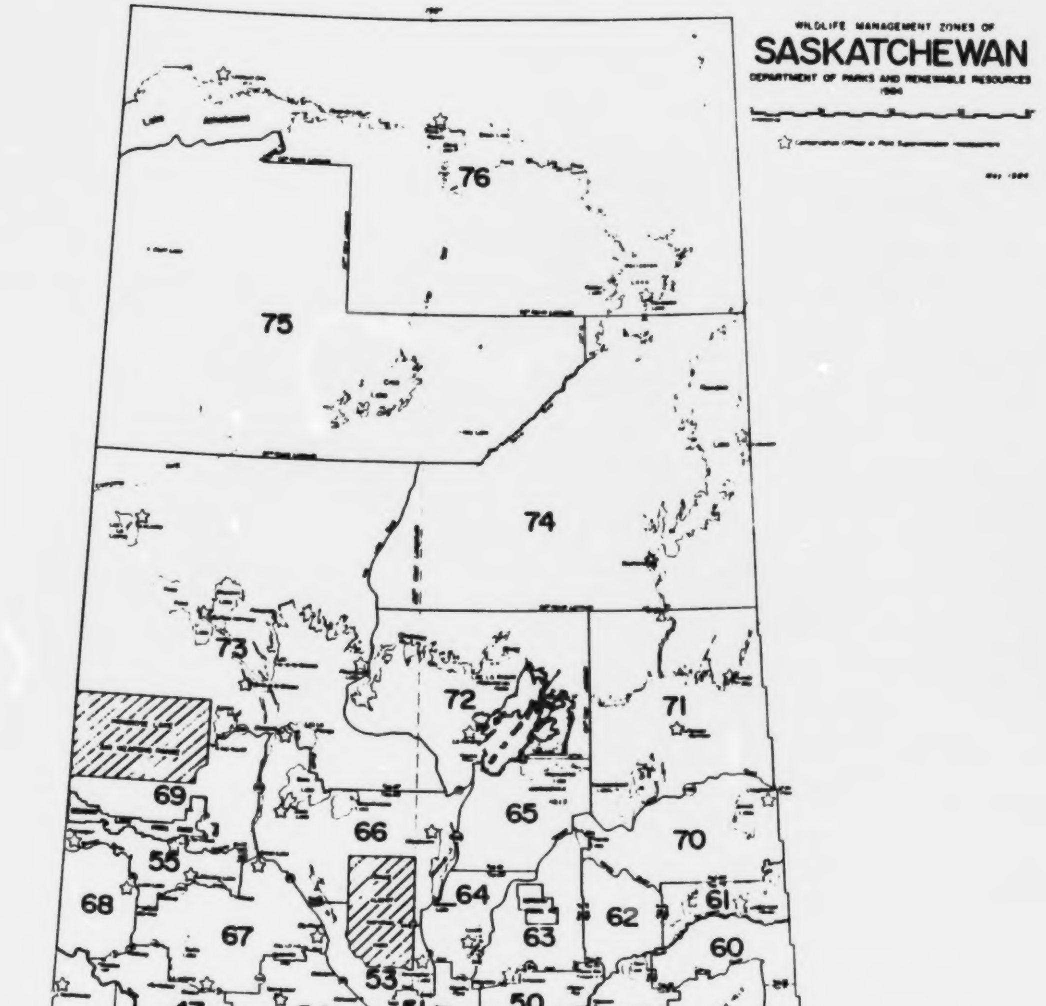
** does not include antlerless mule deer applicants who were successful in the regular mule deer draw first, thereby removing them from the antlerless draw.

*** chance of being drawn for a licence.

Archery Draw — 1983

All archery applicants for moose and antelope got licences in 1983. Most archers received licences for mule deer, except for a few C-Pool applicants who applied in the Great Sandhills zones.

Results of the Big Game Draw should be available by August 15, 1984.
The information number is 566-9071, collect calls will not be accepted.


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
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	Address	Town	Postal Code	SHSC ☐ CAF ☐ RCMP ☐
2	Surname	First Name and Initial	Age	Registration No BEN NO
	Address	Town	Postal Code	SHSC ☐ CAF ☐ RCMP ☐
3	Surname	First Name and Initial	Age	Registration No BEN NO
	Address	Town	Postal Code	SHSC ☐ CAF ☐ RCMP ☐
4	Surname	First Name and Initial	Age	Registration No BEN NO
	Address	Town	Postal Code	SHSC ☐ CAF ☐ RCMP ☐

Zone Preference 1st ☐ 2nd ☐ 3rd ☐ 4th ☐ 5th ☐ 6th ☐

One Applicant Must Sign Below

I, the undersigned, hereby certify all applicants are eligible and comply with the Firearm Safety Regulations
No false or misleading information is contained hereon

Signature

Telephone No

Species

☐ Archery

☐ Antlerless (mule deer)

(For Office Use Only)

1984 Big Game Draw Application

- —Complete, in detail, the S.H.S.C. registration and beneficiary numbers.
- —Print only.
- —Licence fee $30.00 for each applicant.
- —Please fill in return address on reverse side.
- —Applications with incomplete or incorrect information will be rejected.

Appendix 15. 1934 Saskatchewan Big Game Hunter Questionnaire.

Saskatchewan Parks and Renewable Resources

1984 Big Game Hunter Survey

A MESSAGE FROM THE DIRECTOR OF WILDLIFE

Fellow Sportsman:

We are again asking for your support with the annual Big Game Hunter Survey.

Please use the attached form to record your big game hunting as it occurs this fall, then mail the form in the postage paid envelope provided when you are finished hunting for the year.

As a hunter, you will be interested in the results of last year's survey. The last page, which is yours to keep, summarizes the 1983 big game harvest.

This survey provides the information we need to set responsible bag limits and season dates and therefore to enable future hunting recreation in this province. With the seventy-six new wildlife management zones in effect for 1984, this year's survey is more important than ever. Because the names for the survey are selected randomly every year for statistical accuracy, you may be sampled two or more years in a row.

We greatly appreciate your assisting with the Big Game Hunter Survey. By doing so, you will have contributed to better wildlife management in Saskatchewan.

Hoping your 1984 hunting season is successful,

G. W. Pepper
A/Director
Wildlife Branch
Saskatchewan Parks and Renewable Resources

1984 Big Game Hunter Survey

1. **If you did not purchase a 1984 Saskatchewan Big Game Licence please check ☑ here ☐ and return immediately, Thank You.**
2. If you did purchase a 1984 Saskatchewan Big Game Licence please fill out the following questionnaire, and return it upon the completion of your hunting.
3. Check ☑ each Saskatchewan Big Game Licence you purchased and each Big Game species you hunted in Saskatchewan in 1984:

	ANTELOPE		BEAR		ELK		MOOSE		MULE DEER			WOODLAND CARIBOU
	Archery	Regular	1st	2nd	Special Draw	Regular	Special Draw	Regular Bull/Calf	Archery	Regular	Antlerless	
Licences Purchased	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Species Hunted	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

	WHITE-TAILED DEER					
	1st Regular	2nd Regular	1st Archery	2nd Archery	1st Muzzleloader	2nd Muzzleloader
Licences Purchased	☐	☐	☐	☐	☐	☐
Species Hunted	☐	☐	☐	☐	☐	☐

4. Check ☑ here ☐ if you obtained a free bear tag valid only for Zones 58 to 61.
   Number of Tags ☐ Number of Bear Taken ☐
   Do not include any information about free bear tag hunting activity in following questionnaire.

5. **Please record all your hunting activities, whether or not you bagged an animal.**
   - **Use a separate line for each day hunted; if you hunted in more than one zone in a day, use a separate line for each zone.**
   - **Use the following guide for recording hunting time**
     (4 or more hours = 1 day less than 4 hours = ½ day)

Species	Date(s)		GM Zone No	Time Hunted (Check ✓)		Kill Information
	Month	Day		1 Day	½ Day	
(A) White-tailed Deer 1st Licence						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Buck ☐ 2 Doe ☐ 3 Fawn
(B) White-tailed Deer 2nd Licence						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe
(C) Moose						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Bull ☐ 2 Cow ☐ 3 Calf

Species	Date(s)		GM Zone No	Time Hunted (Check ✓)		Kill Information
	Month	Day		1 Day	½ Day	
(D) Antelope						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Buck ☐ 3 Kid ☐ 2 Doe
(E) Mule Deer						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Buck ☐ 3 Fawn ☐ 2 Doe
(F) Elk						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Bull ☐ 2 Cow ☐ 3 Calf
(G) Bear 1st Licence						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Boar ☐ 3 Cub ☐ 2 Sow
(H) Bear 2nd Licence						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Boar ☐ 3 Cub ☐ 2 Sow
(I) Woodland Caribou						Zone Number Date of Kill Month Day Animal was (check ✓ below) ☐ 1 Bull ☐ 2 Cow ☐ 3 Calf

Nº 1286

Please tear off this section before mailing back the questionnaire in the enclosed, postage-paid envelope.

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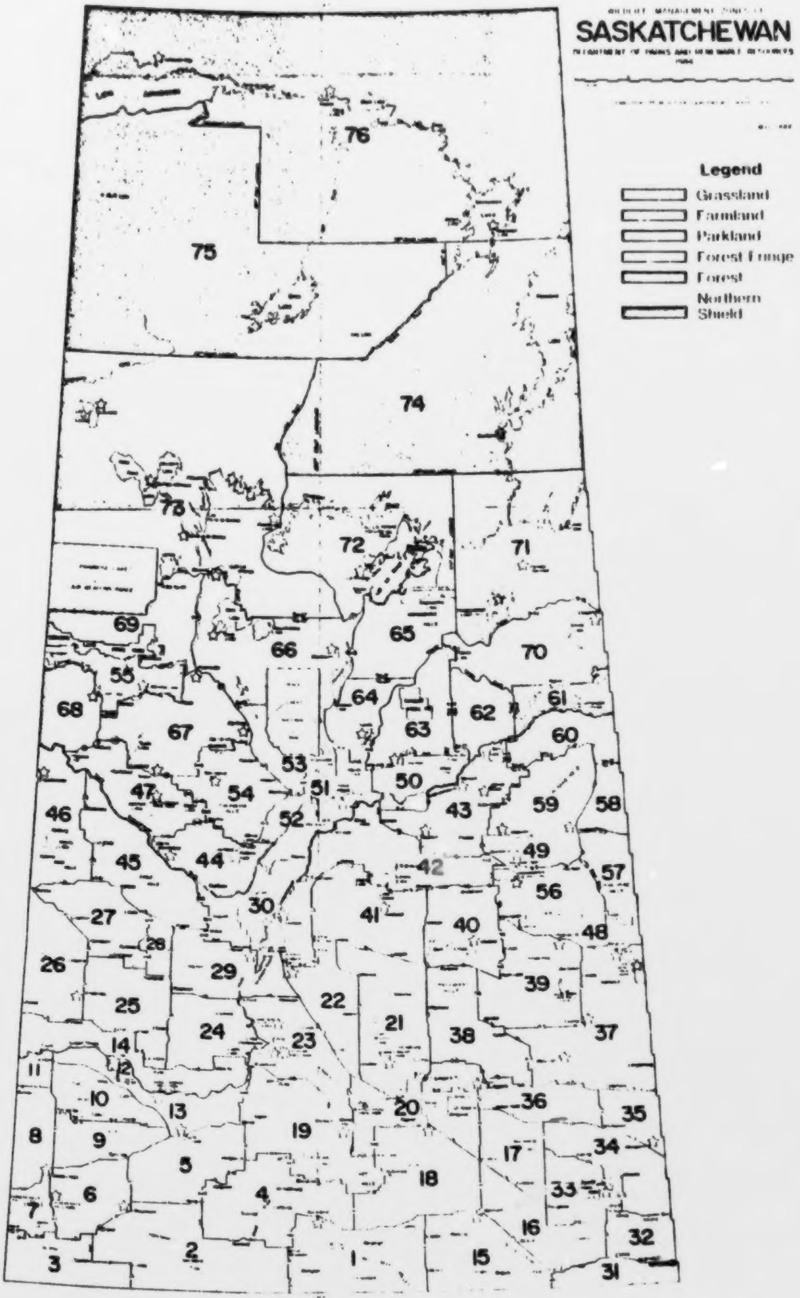
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1983 Hunter Statistics

White-tailed Deer:

Licence sales	57 586	Hunter-days of recreation	163 009
Harvest	33 574	Hunter success	58 per cent

Licence sales, hunter harvest, and hunter-days declined in 1983 due to increased licence fees and additional vehicle restrictions in southeastern Saskatchewan.

Moose: (Regular and Special Seasons Combined)

Licence sales	10 127	Hunter-days of recreation	37 738
Harvest	2 113	Hunter success	21 per cent

The 1983 moose harvest declined 20 per cent from the 1982 harvest, largely due to fewer moose hunters afield. Hunter success of 21 per cent was similar to 1982.

Elk: (Regular Bulls-only Season)

Licence sales	3 187	Hunter-days of recreation	9 425
Harvest	261	Hunter success	8 per cent

Regular bulls-only hunting for elk continues to attract more hunters each year. About one-third of the hunter-days and harvest occurred during the late season in December.

Mule Deer: (Either-sex Season)

Licence sales	5 750	Hunter-days of recreation	11 251
Harvest	4 894	Hunter success	85 per cent

Excellent hunting was enjoyed by mule deer hunters in 1983.

Mule Deer: (Antlerless Season)

Licence sales	1 455	Hunter-days of recreation	1 582
Harvest	1 337	Hunter success	92 per cent

Antlerless mule deer hunting was introduced in 1983 to provide additional hunting opportunity from rapidly increasing mule deer populations in parts of southwestern Saskatchewan.

Black Bear:

Licence sales	4 375	Hunter-days of recreation	10 027
Harvest	1 071	Hunter success	25 per cent

The 1983 bear harvest declined 10 per cent from 1982, despite high bear populations throughout forested Saskatchewan.

Woodland Caribou:

Licence sales	152	Hunter-days of recreation	232
Harvest	27	Hunter success	18 per cent

The major concern for this lightly hunted big game species continues to be forest road access and potential destruction of caribou habitat by timber harvesting.

Antelope:

Licence sales	2 659	Hunter-days of recreation	3 955
Harvest	2 010	Hunter success	76 per cent

With antelope populations unchanged from 1982, harvest and hunter-days in 1983 were similar to the previous year.

Special Seasons: Parks and Wildlife Management Units

Management Unit	New Zone	Old Zone	Harvest Moose	Harvest Elk	Hunter Success Moose	Hunter Success Elk
Cypress Hills	6+7	3+4	—	63	—	56%
Moose Mountain	33	16	—	108	—	54%
Duck Mountain	37	18	32	—	32%	—
Fort a la Corne	50	21	36	67	36%	24%
Thickwood Hills	54	22	—	—	—	—
Greenwater	56	23	11	—	22%	—

Primitive Weapons Seasons

White-tailed deer (Archery and Muzzleloaders)

Licence sales	1 986	Harvest	220	Hunter Success	11 per cent

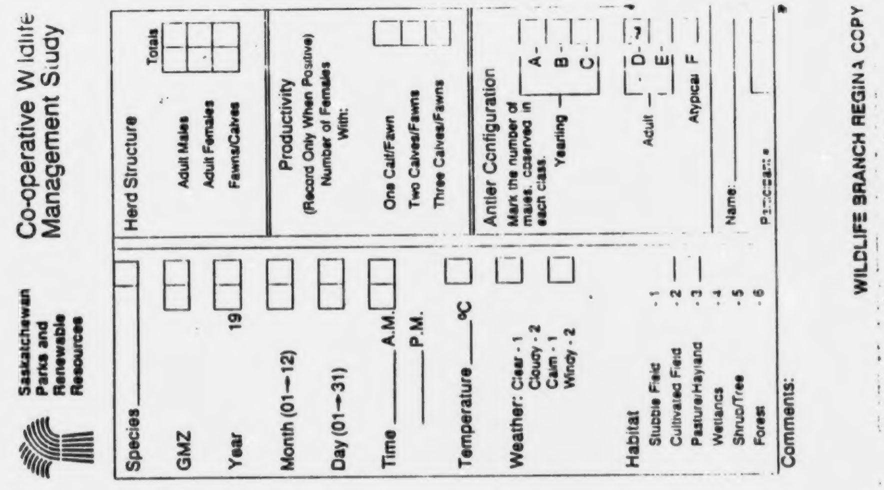
Mule deer (Archery)

Licence sales	775	Harvest	256	Hunter Success	33 per cent

Antelope (Archery)

Licence sales	248	Harvest	55	Hunter success	22 per cent

Appendix 16. 1984 Cooperative Wildlife Management Study Form.



Saskatchewan
Parks and
Renewable
Resources

Co-operative Wildlife
Management Study

Species ____

GMZ ☐☐

Year 19 ☐☐

Month (01→12) ☐☐

Day (01→31) ☐☐

Time ____ A.M. ☐☐
____ P.M.

Temperature ____ °C ☐

Weather: Clear - 1 ☐
Cloudy - 2
Calm - 1 ☐
Windy - 2

Habitat
Stubble Field -1
Cultivated Field -2 ☐
Pasture/Hayland -3 ☐
Wetlands -4
Shrub/Tree -5
Forest -6

Comments:

Herd Structure
Totals
Adult Males ☐☐
Adult Females ☐☐
Fawns/Calves ☐☐

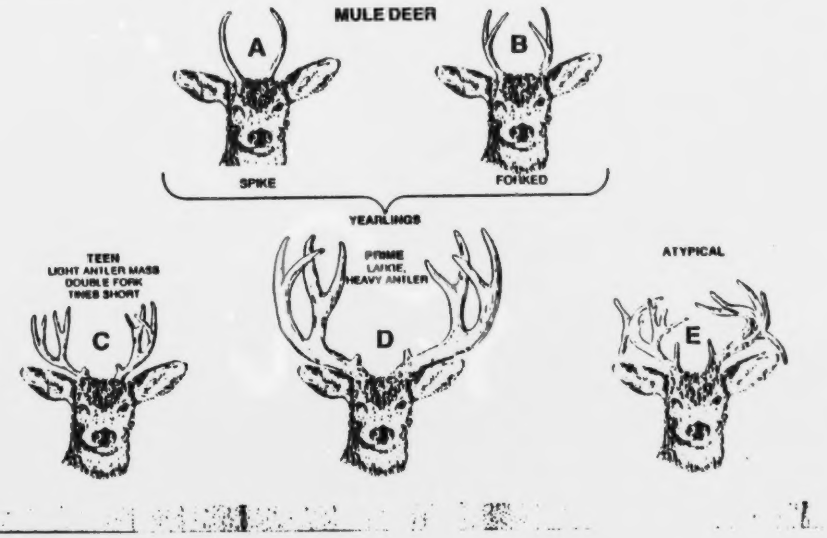
Productivity
(Record Only When Positive)
Number of Females
With:
One Calf/Fawn ☐
Two Calves/Fawns ☐
Three Calves/Fawns ☐

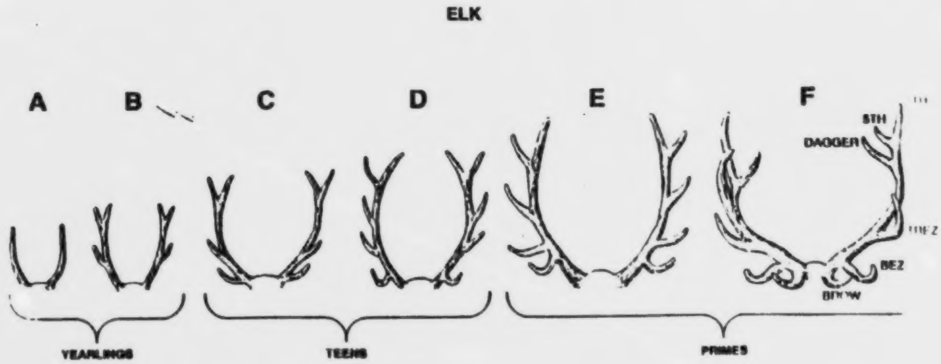
Antler Configuration
Mark the number of males observed in each class.
Yearling — A- ☐ B- ☐ C- ☐
Adult — D- ☐ E- ☐
Atypical F ☐

Name: ____

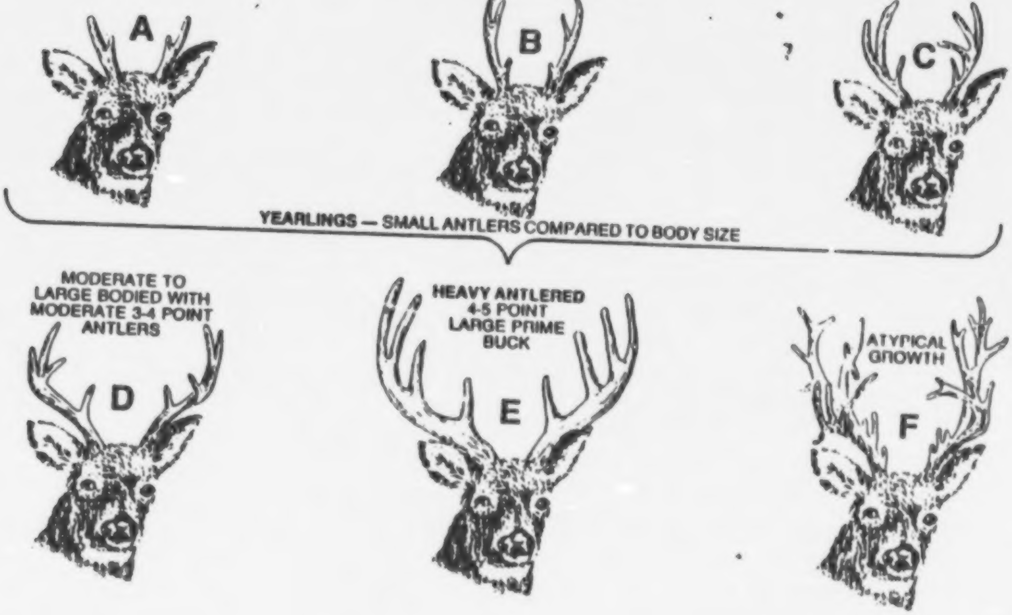
Participant ____

WILDLIFE BRANCH REGINA COPY

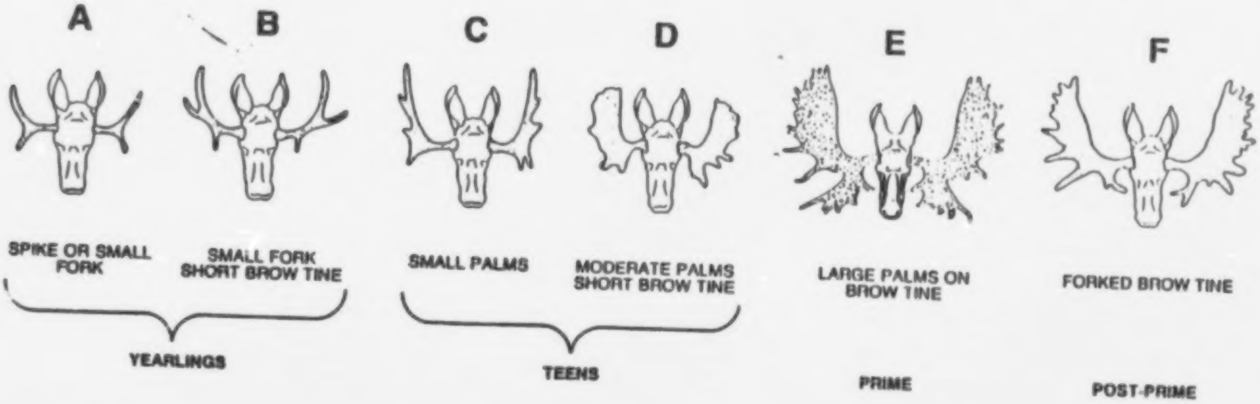

MULE DEER
A
B
SPIKE
FORKED
YEARLINGS
TEEN
LIGHT ANTLER MASS
DOUBLE FORK
TINES SHORT
C
PRIME
LARGE,
HEAVY ANTLER
D
ATYPICAL
E


ELK
A
B
C
D
E
F
5TH
DAGGER
TREZ
BEZ
BROW
YEARLINGS
TEENS
PRIMES

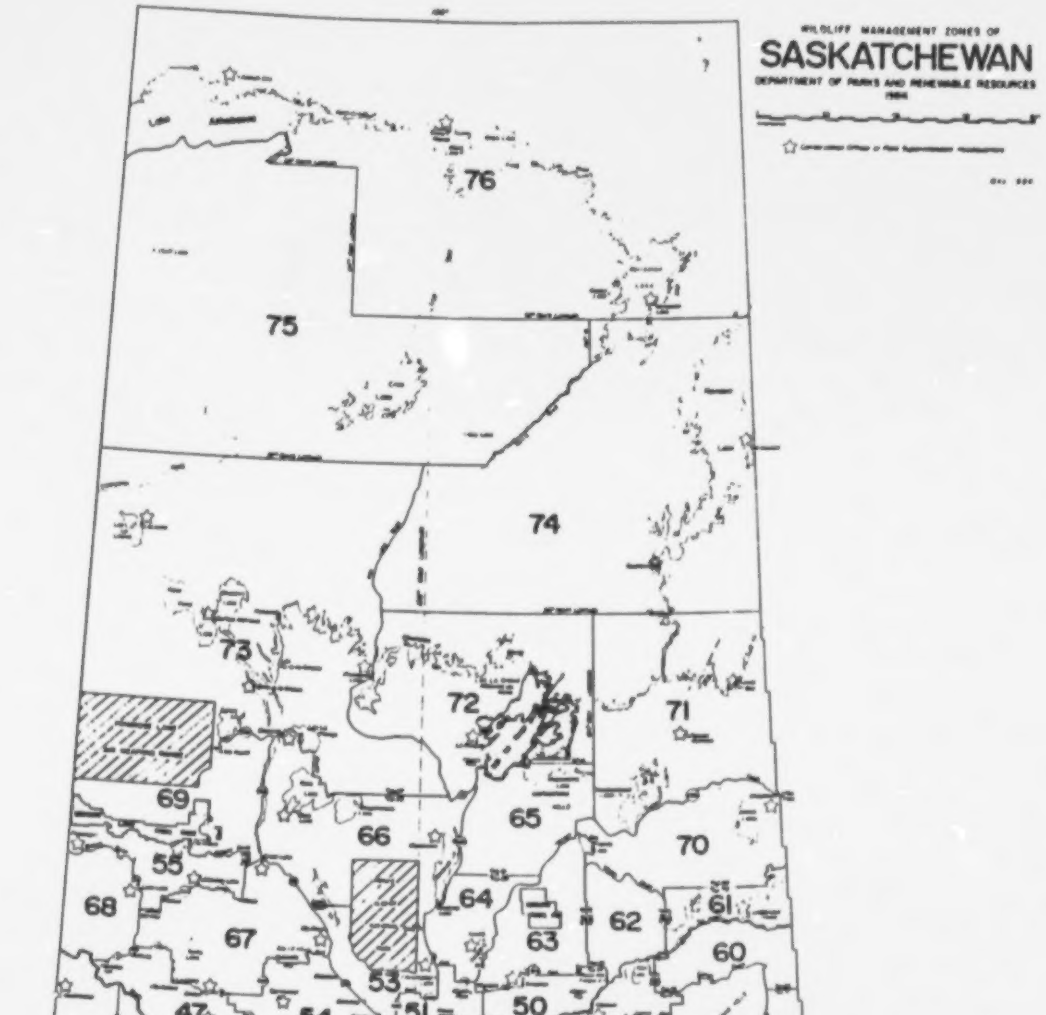
WHITE - TAILED DEER


A
B
C
YEARLINGS — SMALL ANTLERS COMPARED TO BODY SIZE
MODERATE TO LARGE BODIED WITH MODERATE 3-4 POINT ANTLERS
HEAVY ANTLERED 4-5 POINT LARGE PRIME BUCK
ATYPICAL GROWTH
D
E
F

MOOSE


A
B
C
D
E
F
SPIKE OR SMALL FORK
SMALL FORK SHORT BROW TINE
SMALL PALMS
MODERATE PALMS SHORT BROW TINE
LARGE PALMS ON BROW TINE
FORKED BROW TINE
YEARLINGS
TEENS
PRIME
POST-PRIME

Appendix 17. Wildlife Management Zones - 1984.


WILDLIFE MANAGEMENT ZONES OF
SASKATCHEWAN
DEPARTMENT OF PARKS AND RENEWABLE RESOURCES
1984
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15
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Appendix 18. Regular Mule Deer Harvest, Hunting Success and Pressure by Season, 1984

WMZ	SEASON START	DATES END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL	KM2 ZONE
GRASSLAND													
1	11/05	11/10	96	96	94	98.3	94	3.50	1	0.08	169	2	0.0203
2	11/01	11/03	434	434	417	96.1	417	4.51	1	0.16	552	1	0.0519
2	11/05	11/07	403	403	361	89.4	361	3.26	1	0.23	551	2	0.0518
3	11/05	11/10	270	270	263	97.5	263	2.84	1	0.21	378	1	0.0879
4	11/05	11/10	102	102	97	95.0	97	4.20	1	0.50	140	1	0.0173
5	11/05	11/10	300	300	299	99.5	299	3.76	1	0.24	350	1	0.0586
6	11/05	11/10	369	369	354	95.9	354	5.52	1	0.62	500	1	0.1192
7	11/05	11/10	263	263	243	92.2	243	3.43	1	0.30	377	2	0.1992
8	11/05	11/10	53	53	53	100.0	53	2.00	1	0.09	58	1	0.0170
9	11/01	11/03	201	201	196	97.5	196	2.96	1	0.14	223	1	0.0649
9	11/05	11/07	195	195	183	93.9	183	4.67	1	0.28	231	1	0.0672
10	11/01	11/03	340	340	330	97.0	330	4.91	1	0.13	426	1	0.1203
10	11/05	11/07	354	354	347	98.1	347	5.10	1	0.45	371	1	0.1046
12	11/01	11/03	74	74	69	93.9	69	2.15	1	0.38	81	1	0.2355
12	11/05	11/07	78	78	75	96.2	75	2.43	1	0.14	79	1	0.2289
13	11/01	11/03	180	180	170	94.4	170	3.71	1	0.05	237	1	0.0580
13	11/05	11/07	167	167	162	97.0	162	3.25	1	0.50	189	1	0.0463
14	11/01	11/03	296	296	291	98.3	291	3.94	1	0.38	314	1	0.0562
14	11/05	11/07	268	268	246	91.8	246	2.23	1	0.12	324	1	0.0581
FARMLAND													
19	11/05	11/10	150	150	143	95.0	143	2.50	1	0.15	200	1	0.0217
23	11/05	11/10	193	193	169	87.6	169	2.35	1	0.46	306	2	0.0534
24	11/05	11/10	200	200	167	83.5	167	1.76	1	0.21	272	2	0.0563
25	11/05	11/10	50	50	46	91.4	46	4.33	1	0.00	72	2	0.0124
26	11/05	11/10	39	39	39	100.0	39	10.50	1	0.00	51	1	0.0113
27	11/05	11/10	50	50	48	96.6	48	7.67	1	0.67	49	1	0.0100
29	11/05	11/10	97	97	63	64.9	63	1.75	1	0.33	186	3	0.0349
30	11/05	11/10	96	96	77	80.4	77	1.11	1	0.39	140	2	0.0192
PARKLAND													
45	11/05	11/10	48	48	34	71.4	34	5.00	1	0.67	109	3	0.0143
46	11/12	11/17	89	89	65	73.1	65	1.54	1	0.38	189	3	0.0318
TOTALS			5455	5455	5100	93.5	5100	3.39	1	0.27	7125	1	----

Appendix 19. Antlerless Mule Deer Harvest, Hunting Success and Pressure by Season - 1984.

ECOLOGICAL DIVISION: GRASSLAND

SPECIES: MULE DEER

TYPE OF LICENSE: 1ST ANTLERLESS LICENSE

WMZ	SEASON START	DATES END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL	KM2 ZONE
2	11/09	11/10	615	615	555	90.2	555	0.00	1	0.23	686	1	0.0644
2	11/12	11/13	304	304	268	88.2	268	0.00	1	0.33	322	1	0.0303
5	11/12	11/13	200	200	187	93.4	187	0.00	1	0.25	188	1	0.0316
6	11/12	11/13	200	200	183	91.4	183	0.00	1	0.16	192	1	0.0459
9	11/09	11/10	412	412	403	97.8	403	0.00	1	0.29	408	1	0.1187
9	11/12	11/13	165	165	150	90.5	150	0.00	1	0.29	155	1	0.0451
10	11/09	11/10	1,176	1,176	1,116	94.9	1,116	0.00	1	0.45	1,193	1	0.3365
10	11/12	11/13	917	917	886	96.6	886	0.00	1	0.30	844	1	0.2381
10	11/15	11/16	595	595	546	91.7	546	0.00	1	0.44	577	1	0.1628
11	11/09	11/10	98	98	94	95.5	94	0.00	1	0.31	99	1	0.1005
11	11/12	11/13	74	74	71	97.0	71	0.00	1	0.23	66	1	0.0674
12	11/09	11/10	95	95	95	100.0	95	0.00	1	0.41	93	1	0.2701
12	11/12	11/13	105	105	100	94.8	100	0.00	1	0.38	93	1	0.2690
13	11/09	11/10	218	218	205	93.9	205	0.00	1	0.37	224	1	0.0550
13	11/12	11/13	182	182	159	87.5	159	0.00	1	0.22	186	1	0.0454
14	11/09	11/10	365	365	345	94.6	345	0.00	1	0.31	368	1	0.0660
14	11/12	11/13	235	235	220	93.5	220	0.00	1	0.23	238	1	0.0427

Appendix 20. Age Structure of Mule Deer Harvest (Checkstations) in WMZ 9 - 12, 1984.

```
             CROSSTAB OF SEX BY YEAR AND WILDLIFE MANAGEMENT ZONE
                    FROM 1984 MULE DEER CHECKSTATIONS
                                WMZ=9

                        TABLE OF SEX BY YR_CLASS

                      SEX          YR_CLASS

                      FREQUENCY|
                       PERCENT |
                       ROW PCT |
                       COL PCT |     0.5|  TOTAL
                      ---------+--------+
                      FEMALE   |      2 |      2
                               |  66.67 |  66.67
                               | 100.00 |
                               |  66.67 |
                      ---------+--------+
                      MALE     |      1 |      1
                               |  33.33 |  33.33
                               | 100.00 |
                               |  33.33 |
                      ---------+--------+
                      TOTAL           3        3
                                 100.00   100.00
```

```
             CROSSTAB OF SEX BY YEAR AND WILDLIFE MANAGEMENT ZONE
                    FROM 1984 MULE DEER CHECKSTATIONS
                                WMZ=10

                        TABLE OF SEX BY YR_CLASS

SEX          YR_CLASS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |     0.5|     1.5|     2.5|     3.5|     4.5|     5.5|     6.5|     7.5|     8.5|     9.5|    10.5|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |     57 |     79 |     69 |     50 |     31 |     12 |      4 |      5 |      4 |      6 |      1 |    318
         |  14.65 |  20.31 |  17.74 |  12.85 |   7.97 |   3.08 |   1.03 |   1.29 |   1.03 |   1.54 |   0.26 |  81.75
         |  17.92 |  24.84 |  21.70 |  15.72 |   9.75 |   3.77 |   1.26 |   1.57 |   1.26 |   1.89 |   0.31 |
         |  45.97 |  95.18 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |     67 |      4 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |      0 |     71
         |  17.22 |   1.03 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |  18.25
         |  94.37 |   5.63 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
         |  54.03 |   4.82 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL         124       83       69       50       31       12        4        5        4        6        1      389
            31.88    21.34    17.74    12.85     7.97     3.08     1.03     1.29     1.03     1.54     0.26   100.00
```

```
                    CROSSTAB OF SEX BY YEAR AND WILDLIFE MANAGEMENT ZONE
                                FROM 1984 MULE DEER CHECKSTATIONS
                                            WMZ=11

                                   TABLE OF SEX BY YR_CLASS

SEX          YR_CLASS

FREQUENCY|
PERCENT  |
ROW PCT  |
COL PCT  |    0.5|    1.5|    2.5|    3.5|    4.5|    5.5|    6.5|    7.5|   10.5|  TOTAL
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
FEMALE   |     13 |    18 |    22 |    15 |     8 |     2 |     2 |     2 |     1 |     83
         |  13.40 | 18.56 | 22.68 | 15.46 |  8.25 |  2.06 |  2.06 |  2.06 |  1.03 |  85.57
         |  15.66 | 21.69 | 26.51 | 18.07 |  9.64 |  2.41 |  2.41 |  2.41 |  1.20 |
         |  52.00 | 90.00 |100.00 |100.00 |100.00 |100.00 |100.00 |100.00 |100.00 |
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
MALE     |     12 |     2 |     0 |     0 |     0 |     0 |     0 |     0 |     0 |     14
         |  12.37 |  2.06 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  14.43
         |  85.71 | 14.29 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |
         |  48.00 | 10.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
TOTAL          25      20      22      15       8       2       2       2       1      97
            25.77   20.62   22.68   15.46    8.25    2.06    2.06    2.06    1.03  100.00
```

```
                         CROSSTAB OF SEX BY YEAR AND WILDLIFE MANAGEMENT ZONE
                                     FROM 1984 MULE DEER CHECKSTATIONS
                                                 WMZ=12

                                        TABLE OF SEX BY YR_CLASS

SEX          YR_CLASS

FREQUENCY|
PERCENT  |
ROW PCT  |
COL PCT  |    0.5|    1.5|    2.5|    3.5|    4.5|      5|    5.5|    6.5|    7.5|    8.5|    9.5|   10.5|  TOTAL
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
FEMALE   |     23 |    31 |    44 |    31 |    13 |     1 |     5 |     6 |     2 |     2 |     2 |     3 |    163
         |   9.43 | 12.70 | 18.03 | 12.70 |  5.33 |  0.41 |  2.05 |  2.46 |  0.82 |  0.82 |  0.82 |  1.23 |  66.80
         |  14.11 | 19.02 | 26.99 | 19.02 |  7.98 |  0.61 |  3.07 |  3.68 |  1.23 |  1.23 |  1.23 |  1.84 |
         |  46.00 | 58.49 | 69.84 | 83.78 | 72.22 | 50.00 | 83.33 |100.00 |100.00 |100.00 |100.00 |100.00 |
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
MALE     |     25 |    22 |    19 |     6 |     5 |     1 |     1 |     0 |     0 |     0 |     0 |     0 |     79
         |  10.25 |  9.02 |  7.79 |  2.46 |  2.05 |  0.41 |  0.41 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  32.38
         |  31.65 | 27.85 | 24.05 |  7.59 |  6.33 |  1.27 |  1.27 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |
         |  50.00 | 41.51 | 30.16 | 16.22 | 27.78 | 50.00 | 16.67 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
UNKNOWN  |      2 |     0 |     0 |     0 |     0 |     0 |     0 |     0 |     0 |     0 |     0 |     0 |      2
         |   0.82 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |   0.82
         | 100.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |
         |   4.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |  0.00 |
---------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+-------+
TOTAL          50      53      63      37      18       2       6       6       2       2       2       3     244
            20.49   21.72   25.82   15.16    7.38    0.82    2.46    2.46    0.82    0.82    0.82    1.23  100.00
```

Appendix 21. Age Structure of WMZ 12 Regular Season Mule Deer Harvest (Checkstations) - 1984.

```
                   CROSSTAB OF SEX BY YEAR CLASS FROM 1984 MULE DEER
                              CHECKSTATIONS WMZ=12
                           SEASON=EITHER SEX 1ST SPLIT

                             TABLE OF SEX BY YR_CLASS

SEX         YR_CLASS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |     0.5|     1.5|     2.5|     3.5|     4.5|     6.5|     7.5|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |      3 |      7 |      6 |      5 |      1 |      1 |      1 |     24
         |   6.98 |  16.28 |  13.95 |  11.63 |   2.33 |   2.33 |   2.33 |  55.81
         |  12.50 |  29.17 |  25.00 |  20.83 |   4.17 |   4.17 |   4.17 |
         |  75.00 |  38.89 |  54.55 |  83.33 |  50.00 | 100.00 | 100.00 |
---------+--------+--------+--------+--------+--------+--------+--------+
MALE     |      1 |     11 |      5 |      1 |      1 |      0 |      0 |     19
         |   2.33 |  25.58 |  11.63 |   2.33 |   2.33 |   0.00 |   0.00 |  44.19
         |   5.26 |  57.89 |  26.32 |   5.26 |   5.26 |   0.00 |   0.00 |
         |  25.00 |  61.11 |  45.45 |  16.67 |  50.00 |   0.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+
TOTAL           4       18       11        6        2        1        1       43
             9.30    41.86    25.58    13.95     4.65     2.33     2.33   100.00


                   CROSSTAB OF SEX BY YEAR CLASS FROM 1984 MULE DEER
                              CHECKSTATIONS WMZ=12
                           SEASON=EITHER SEX 2ND SPLIT

                             TABLE OF SEX BY YR_CLASS

SEX         YR_CLASS

FREQUENCY|
 PERCENT |
 ROW PCT |
 COL PCT |     0.5|     1.5|     2.5|     3.5|     4.5|       5|     5.5|     6.5|     8.5|     9.5|  TOTAL
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
FEMALE   |      2 |      3 |      1 |      1 |      3 |      1 |      1 |      1 |      1 |      1 |     15
         |   4.00 |   6.00 |   2.00 |   2.00 |   6.00 |   2.00 |   2.00 |   2.00 |   2.00 |   2.00 |  30.00
         |  13.33 |  20.00 |   6.67 |   6.67 |  20.00 |   6.67 |   6.67 |   6.67 |   6.67 |   6.67 |
         |  66.67 |  25.00 |   6.67 |  16.67 |  42.86 |  50.00 |  50.00 | 100.00 | 100.00 | 100.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
MALE     |      1 |      9 |     14 |      5 |      4 |      1 |      1 |      0 |      0 |      0 |     35
         |   2.00 |  18.00 |  28.00 |  10.00 |   8.00 |   2.00 |   2.00 |   0.00 |   0.00 |   0.00 |  70.00
         |   2.86 |  25.71 |  40.00 |  14.29 |  11.43 |   2.86 |   2.86 |   0.00 |   0.00 |   0.00 |
         |  33.33 |  75.00 |  93.33 |  83.33 |  57.14 |  50.00 |  50.00 |   0.00 |   0.00 |   0.00 |
---------+--------+--------+--------+--------+--------+--------+--------+--------+--------+--------+
TOTAL           3       12       15        6        7        2        2        1        1        1       50
             6.00    24.00    30.00    12.00    14.00     4.00     4.00     2.00     2.00     2.00   100.00
```

Appendix 22. First Bear Licence Harvest, Hunting Success & Pressure by Season - 1984.

ECOLOGICAL DIVISION: PARKLAND

WMZ	SEASON DATES START	END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL	KM2 ZONE
37	04/16	05/12	36	43	16	45.2	16	16.09	1	0.00	142	9	0.0126
37	09/05	10/20	44	54	32	72.3	32	5.00	1	0.00	56	2	0.0050
42	08/27	10/20	9	11	0	0.0	0	0.00	1	0.00	27	.	0.0036
43	04/16	06/16	27	32	11	40.2	11	1.00	1	0.00	89	8	0.0131
43	08/27	10/20	22	27	16	72.3	16	0.50	1	0.00	92	6	0.0135

ECOLOGICAL DIVISION: FOREST FRINGE

WMZ	SEASON DATES START	END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL	KM2 ZONE
48	04/16	06/16	24	27	21	88.7	21	3.00	1	0.00	86	4	0.0339
48	08/27	10/20	48	54	27	55.4	27	21.46	1	5.36	75	3	0.0297
49	04/16	06/16	34	38	21	63.4	21	21.46	1	0.00	91	4	0.0381
49	08/27	10/20	53	59	16	30.2	16	2.00	1	0.00	137	9	0.0573
50	04/16	06/16	121	134	43	35.5	43	7.00	1	0.00	360	8	0.1082
50	08/27	10/20	63	70	32	51.2	32	1.00	1	1.00	122	4	0.0365
51	04/16	06/16	24	27	11	44.4	11	1.00	1	0.00	54	5	0.0187
51	08/27	10/20	10	11	5	55.4	5	5.36	1	0.00	19	4	0.0067
53	04/16	06/16	68	75	43	63.4	43	1.33	1	0.33	197	5	0.0710
53	08/27	10/20	92	102	54	58.4	54	2.00	1	0.33	176	3	0.0637
54	04/16	06/16	29	32	11	37.0	11	10.73	1	0.00	113	11	0.0198
54	08/27	10/20	15	16	5	37.0	5	0.00	1	5.36	30	6	0.0052
55	04/16	06/16	15	16	5	37.0	5	5.36	1	0.00	16	3	0.0043
55	08/27	10/20	34	38	11	31.7	11	10.73	1	0.00	59	6	0.0157

ECOLOGICAL DIVISION: FOREST

WMZ	SEASON DATES START	END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL	KM2	ZONE
56	04/16	06/16	240	263	172	71.5	172	2.88	1	0.13	750	4	0.1588	
56	08/27	10/20	313	343	118	37.7	118	0.82	1	0.18	821	7	0.1737	
57	04/16	06/16	127	139	70	54.8	70	3.33	1	0.00	328	5	0.0992	
57	08/27	10/20	166	182	16	9.7	16	0.50	1	0.00	406	25	0.1228	
58	04/16	06/16	29	32	27	91.3	27	0.67	1	0.00	35	1	0.0155	
58	08/27	10/20	83	91	27	32.2	27	1.00	1	0.50	200	7	0.0891	
59	04/16	06/16	137	150	97	70.4	97	3.00	1	0.50	375	4	0.0640	
59	08/27	10/20	313	343	75	24.0	75	3.00	1	0.67	938	12	0.1601	
60	04/16	06/16	44	48	27	60.9	27	1.50	1	0.00	145	5	0.0377	
60	08/27	10/20	103	113	27	26.1	27	0.33	1	0.33	293	11	0.0763	
61	04/16	06/16	5	5	5	100.0	5	5.36	1	0.00	11	2	0.0035	
61	08/27	10/20	73	80	11	14.6	11	1.00	1	0.00	204	19	0.0672	
62	04/16	06/16	10	11	5	54.8	5	5.36	1	0.00	30	6	0.0080	
62	08/27	10/20	29	32	5	18.3	5	5.36	1	0.00	57	11	0.0152	
63	04/16	06/16	69	75	54	78.2	54	53.64	1	0.00	135	3	0.0238	
63	08/27	10/20	73	80	11	14.6	11	10.73	1	0.00	119	11	0.0210	
64	04/16	06/16	44	48	16	36.5	16	16.09	1	0.00	97	6	0.0274	
64	08/27	10/20	39	43	5	13.7	5	0.00	1	0.00	72	14	0.0204	
65	04/16	06/16	34	38	11	31.3	11	10.73	1	0.00	67	6	0.0103	
65	08/27	10/20	15	16	0	0.0	0	0.00	1	0.00	21	.	0.0033	
66	04/16	06/16	39	43	27	68.5	27	1.50	1	0.00	116	4	0.0103	
66	08/27	10/20	54	59	5	10.0	5	5.36	1	0.00	108	20	0.0096	
67	04/16	06/16	118	129	91	77.6	91	1.83	1	0.00	300	3	0.0346	
67	08/27	10/20	196	215	75	38.3	75	1.33	1	0.00	560	7	0.0645	
68	04/16	06/16	54	59	43	79.7	43	0.60	1	0.00	113	3	0.0272	
68	08/27	10/20	24	27	11	43.8	11	10.73	1	0.00	43	4	0.0103	
69	04/16	06/16	44	48	27	60.9	27	26.82	1	0.00	99	4	0.0128	
69	08/27	10/20	73	80	27	36.5	27	1.50	1	0.00	210	8	0.0271	

ECOLOGICAL DIVISION: FOREST

WMZ	SEASON START	DATES END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL	KM2 ZONE
70	04/30	06/30	10	11	11	100.0	11	10.73	1	0.00	16	2	0.0019
70	08/27	10/20	15	16	0	0.0	0	0.00	1	0.00	64	.	0.0076
71	04/30	06/30	5	5	5	100.0	5	5.36	1	0.00	5	1	0.0003
71	08/27	10/20	15	16	5	36.5	5	5.36	1	0.00	51	10	0.0028
72	04/16	06/30	10	11	0	0.0	0	0.00	1	0.00	27	.	0.0015
72	08/27	10/20	5	5	0	0.0	0	0.00	1	0.00	16	.	0.0009
73	04/30	06/30	39	43	32	82.2	32	32.19	1	0.00	84	3	0.0018
73	08/27	10/20	54	59	11	19.9	11	1.00	1	0.00	162	15	0.0035

ECOLOGICAL DIVISION: NORTHERN SHIELD

WMZ	SEASON START	DATES END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL	KM2 ZONE
74	04/30	06/30	8	11	5	64.8	5	5.36	1	0.00	8	2	0.0002
74	08/27	10/20	12	16	0	0.0	0	0.00	1	0.00	46	.	0.0010
75	04/30	06/30	4	5	0	0.0	0	0.00	1	0.00	3	.	0.0000
75	08/27	10/20	4	5	5	100.0	5	0.00	1	0.00	16	3	0.0003
76	08/27	10/20	4	5	5	100.0	5	5.36	1	0.00	5	1	0.0001

Appendix 23. Second Bear Licence Harvest, Hunting Success and Pressure by Season, 1984

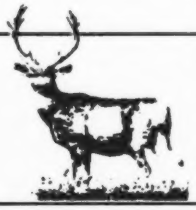
	WMZ	SEASON DATES START	END	# ACTUAL HUNTERS	# ZONE HUNTERS	# SUCCESSFUL HUNTERS	% HUNTER SUCCESS	HARVEST	HARVEST STRUCTURE MALES	FEMALES	YOUNG	HUNTER DAYS	HUNTER-DAYS ANIMAL	KM2 ZONE
PARK LAND	37	04/16	05/12	4	3	3	96.6	3	0.00	1	0.00	10	3	0.0009
	37	09/05	10/20	4	3	3	96.6	3	3.48	1	0.00	9	3	0.0008
	42	04/16	06/16	4	3	3	96.6	3	3.48	1	0.00	17	5	0.0023
	43	08/27	10/20	4	3	3	96.6	3	3.48	1	0.00	3	1	0.0005
FOREST FRINGE	49	04/16	06/16	3	3	3	100.0	3	0.00	1	0.00	7	2	0.0029
	50	04/16	06/16	6	7	3	56.8	3	3.48	1	0.00	7	2	0.0021
	50	08/27	10/20	9	10	7	75.7	7	0.00	1	1.00	33	5	0.0100
	53	04/16	06/16	6	7	3	56.8	3	0.00	1	0.00	12	4	0.0044
	53	08/27	10/20	15	17	17	100.0	17	17.39	1	0.00	35	2	0.0125
	54	04/16	06/16	6	7	3	56.8	3	0.00	1	0.00	26	8	0.0046
	55	04/16	06/16	3	3	0	0.0	0	0.00	1	0.00	10	.	0.0028
FOREST	55	08/27	10/20	12	14	3	28.4	3	3.48	1	0.00	16	5	0.0042
	56	04/16	06/16	45	49	7	15.5	7	1.00	1	0.00	150	22	0.0316
	56	08/27	10/20	22	24	7	30.9	7	6.96	1	0.00	56	8	0.0118
	57	04/16	06/16	16	17	10	65.0	10	0.50	1	0.00	53	5	0.0159
	57	08/27	10/20	3	3	3	100.0	3	3.48	1	0.00	10	3	0.0032
	58	04/16	06/16	13	14	7	54.1	7	0.00	1	0.00	14	2	0.0062
	58	08/27	10/20	6	7	3	54.1	3	0.00	1	0.00	10	3	0.0046
	59	04/16	06/16	22	24	10	46.4	10	2.00	1	0.00	63	6	0.0107
	59	08/27	10/20	29	31	7	24.1	7	0.00	1	0.00	83	12	0.0142
	60	04/16	06/16	6	7	7	100.0	7	0.00	1	0.00	21	3	0.0054
	60	08/27	10/20	10	10	0	0.0	0	0.00	1	0.00	35	.	0.0091
	61	04/16	06/16	3	3	3	100.0	3	3.48	1	0.00	14	4	0.0046
	61	08/27	10/20	10	10	3	36.1	3	3.48	1	0.00	35	10	0.0114
	63	04/16	06/16	19	21	17	90.2	17	0.67	1	0.00	56	3	0.0099
	64	04/16	06/16	6	7	7	100.0	7	6.96	1	0.00	17	2	0.0047
	66	04/16	06/16	13	14	10	81.2	10	6.96	1	3.48	46	4	0.0040
	67	04/16	06/16	39	42	28	72.2	28	0.60	1	0.00	79	3	0.0091
	67	08/27	10/20	22	24	21	92.8	21	1.00	1	1.00	56	3	0.0064
	68	08/27	10/20	3	3	3	100.0	3	3.48	1	0.00	13	4	0.0032
	69	04/16	06/16	13	14	10	81.2	10	10.44	1	0.00	19	2	0.0025
	69	08/27	10/20	6	7	3	54.1	3	3.48	1	0.00	24	7	0.0031
	70	04/30	06/30	6	7	7	100.0	7	6.96	1	0.00	7	1	0.0008
	72	08/27	10/20	3	3	0	0.0	0	0.00	1	0.00	3	.	0.0002
	73	04/30	06/30	3	3	0	0.0	0	0.00	1	0.00	2	.	0.0000
	73	08/27	10/20	6	7	0	0.0	0	0.00	1	0.00	7	.	0.0002

Appendix 24. 1985 Big Game Hunting Season Regulations.

Big Game

1985 Special Big Game Seasons

Saskatchewan Residents Only by Application and Draw

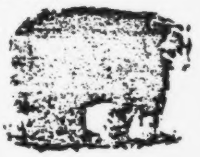
Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Limit	General Information
Antelope (tentative)	Zones 1 to 14, 19 and 23 to 26	Oct. 28 - Nov. 2	one antelope, either sex	- Antelope licence quotas will be set after July aerial surveys
Antelope (Archery tentative)	Zones 1 to 14, 19 and 23 to 26	Sept. 2 - Oct. 5	one antelope, either sex	- Antelope archery licences are valid in any open zones during the archery season only
Special Elk	Zones 6 and that portion of Zone 7 east of Highway No. 271 and Grid Road No. 615	Oct. 21 - Oct. 26	one elk, either sex	- Licence quotas (in brackets) for each zone: 6 and the east portion of 7 combined (100), the west portion of zone 7(100), 33(100), 50(275), 48, 49, 56 and 57 combined (500)
	That portion of Zone 7 west of Highway No. 271 and Grid Road No. 615, including Cypress Hills Provincial Park (West Block).	Oct. 21 - Oct. 26	one elk, either sex	
	Zone 33, including Moose Mountain Provincial Park	Oct. 28 - Nov. 2	one elk, either sex	
	That portion of Zone 50 south of Highway No. 55 including Fort a la Corne Wildlife Management Unit	Sept. 2 - Sept. 21 & Nov. 4 - Nov. 16	one elk, either sex	
	Zones 48, 49, 56 and 57 combined, including Greenwater Provincial Park	Oct. 21 - Oct. 26	one elk, either sex	
Special Moose	Zones 48, 49 and 56 combined, 57 to 62 and 67, including Leaf Lake Wildlife Management Unit	Sept. 16 - Sept. 21 & Nov. 4 - Nov. 16	one moose, either sex	- Licence quotas (in brackets) for each zone: 37(100), 50(100), 48, 49 and 56 combined (300), 57(200), 58(200), 59(400), 60(200), 61(100), 62(50), 67(200), 55 and 68 combined (200), Greenwater Provincial Park (50)
	Zones 55 and 68 combined, including Bronson Forest Recreation Site	Nov. 4 - Nov. 16	one moose, either sex	
	Zone 37, including Duck Mountain Provincial Park	Nov. 4 - Nov. 9	one moose, either sex	
	Greenwater Provincial Park Only	Nov. 4 - Nov. 9	one moose, either sex	
	Zone 50 including Fort a la Corne Wildlife Management Unit	Sept. 16 - Sept. 28 & Nov. 4 - Nov. 16	one moose, either sex	
Moose (Archery)	Zones 55 and 68 combined, including Bronson Forest Recreation Site	Sept. 16 - Sept. 28	one moose, either sex	- Archery moose licences valid only during the archery season, Sept. 16 to Sept. 28; quota (100)
Mule Deer 	Zones 1, 3 to 8, 19, 23 to 27, 29, 30 and 45, including Elbow Wildlife Management Unit and Cypress Hills Provincial Park (West Block)	Nov. 4 - Nov. 9	one mule deer either sex	
	Zone 46	Nov. 11 - Nov. 16	one mule deer, either sex	- Licence quotas (in brackets) for each zone: 1(100), 2(1000), 3(300), 4(75), 5(300), 6(400), 7(300), 8(50), 9(500), 10(800), 12(150), 13(400), 14(600), 19(200), 23(200), 24(200), 25(150), 26(200), 27(150), 29(100), 30(100), 45(50), 46(100)
	Zones 2, 9, 10, 12, 13 and 14, including Saskatchewan Landing Provincial Park **Note:** Muzzleloading firearms only in Saskatchewan Landing Provincial Park	Oct. 31 - Nov. 2 or Nov. 4 - Nov. 6	one mule deer, either sex	
Antlerless Mule Deer	Zones 2, 9 and 11 to 14, including Saskatchewan Landing Provincial Park **Note:** Muzzleloading firearms only in Saskatchewan Landing Provincial Park	Nov. 8 and 9 or Nov. 11 and 12	two antlerless mule deer	- "Antlerless Mule Deer" means a doe or a 1985 fawn - Licence quotas (in brackets) for each zone: 1(75), 2(1500), 3(100), 5(300), 6(500), 7(200), 8(50), 9(500), 10(3000), 11(450), 12(500), 13(800), 14(1200)
	Zone 10	Nov. 8 and 9, Nov. 11 and 12, or Nov. 14 to 16	two antlerless mule deer	
	Zones 1, 3 and 5 to 8	Nov. 11 and 12	one antlerless mule deer	
Mule Deer (Archery)	Zones 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks	Sept. 2 - Oct. 5	one mule deer, either sex	- Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (600), 9 and 10 combined (150), 12(50) **Note:** The opening date in Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks is delayed to September 4
	Zones 9, 10 and 12	Sept. 9 - Sept 21	one mule deer, either sex	- Archery licences valid only in archery season
Antlerless Mule Deer (Archery)	**Zones 1 to 8, 11, 13, 14, 18 to 27, 29, 30, 45 and 46, including Elbow Wildlife Management Unit; and Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks**	**Sept. 2 - Oct. 5**	**two antlerless mule deer**	**- Licence quotas (in brackets) for each zone: 1 to 8, 13, 14, 18 to 27, 29, 30, 45 and 46 combined (100), 9 and 10 (150), 12 (50)** **Note: The opening date in Saskatchewan Landing and Cypress Hills (West Block) Provincial Parks is delayed to Sept. 4**
	Zones 9, 10 and 12	**Sept. 9 - Sept. 21**	**two antlerless mule deer**	

Big Game

[illegible] Big Game Seasons

Species	Wildlife Management Zones Open	Season Dates (Inclusive)	Limit	General Information
White-tailed Deer (Primitive Weapons, Sask. Residents Only)	Zones 1 to 8, 11 to 37, 39 to 78, including Elbow, Great Bend, Horsehide Lake and Fort a la Corne Wildlife Management Units, Duck Mountain, Greenwater, Lac La Ronge, Meadow Lake and Nipawin Provincial Parks and Bronson Forest Recreation Site	Archery Sept. 2 - Oct. 12 Muzzleloading Rifles Sept. 30 - Oct. 12	one white-tailed deer, either sex	- An unsuccessful archer may purchase a first regular licence to hunt white-tailed deer by turning in his unused archery licence at any department office - White-tailed deer archery licences are valid in the Shotgun-Archery-Muzzleloader areas of Zones 20 and 30 during the Nov. 18 to Nov. 30 season
	Zones 9 and 10	Archery Sept. 9 - Oct. 12 Muzzleloading Rifles Sept. 30 - Oct. 12	one white-tailed deer, either sex	
	Zone 38	Archery Sept. 2 - Oct. 12 Muzzleloading Rifles Sept. 30 - Oct. 12	one antlered white-tailed deer	- "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres-in-length as measured along the outside curve from the skull to the tip - Muzzleloading rifle white-tailed deer licences are valid only in Muzzleloading season Sept. 30 to Oct. 12 except in the Shotgun-Archery-Muzzleloader areas of Zones 20 and 30
White-tailed Deer (Sask. Residents, Canadian Residents and Non-residents)	Zones 56 to 61, 67 and 69, including Leaf Lake Wildlife Management Unit, Greenwater and Meadow Lake Provincial Parks	Oct. 7 - Oct. 19 & Nov. 11 - Nov. 30	one white-tailed deer, either sex	
	Zone 68, including Bronson Forest Recreation Site	Nov. 11 - Nov. 30	one white-tailed deer, either sex	
	Zones 62 to 66, including Nipawin Provincial Park	Nov. 18 - Nov. 30	one white-tailed deer, either sex	
	Zones 70 to 78, including Lac La Ronge Provincial Park	Nov. 4 - Nov. 30	one white-tailed deer, either sex	
White-tailed Deer (Sask. Residents and Canadian Residents)	Zones 1 to 14, and 24 to 26	Sask. Residents Nov. 18 - Nov. 27 Canadian Residents Nov. 25 - Nov. 27	one white-tailed deer, either sex	- Holders of unused primitive weapons licences may hunt white-tailed deer in the Shotgun-Archery-Muzzleloader areas of Zones 20 and 30 during the regular season
	Zones 15 to 23, 27 to 36 and 39 to 55, including Brokenshell No. 1 and No. 2, Cookson, Estevan-Cambria, Lomond No. 3 (at Maxim), Elbow, Fort a la Corne, Horsehide Lake and Last Mountain Lake Wildlife Management Units; and Moose Mountain Provincial Park	Sask. Residents Nov. 18 - Nov. 30 Canadian Residents Nov. 25 - Nov. 30	one white-tailed deer, either sex	- **Please refer to enclosed map for the portion of Management Zones 20 and 30 restricted to shotgun, archery, and muzzleloading rifle hunting only** - Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit
	Zone 38	Sask. Residents Nov. 18 - Nov. 30 Canadian Residents Nov. 25 - Nov. 30	one antlered white-tailed deer	
	Zone 37, including Duck Mountain Provincial Park	Sask. Residents Nov. 18 - Nov. 23	one antlered white-tailed deer	- "Antlered White-tailed Deer" means any deer with an antler or antlers at least 10 centimetres-in-length as measured along the outside curve from the skull to the tip
	Zone 37, including Duck Mountain Provincial Park	Sask. Residents Nov. 25 - Nov 30 Canadian Residents Nov. 25 - Nov. 30	one white-tailed deer, either sex	- **"Roads and Trails Only". Hunters in Zones 15 to 17, 20 and 30 to 34 must keep vehicles on roads and road allowances with trails**
	Zones 31 and 32	Sask. Residents Dec. 2 - Dec. 7	one antlerless white-tailed deer	- "Antlerless white-tailed deer" means a doe or a 1985 fawn
Antlerless White-tailed Deer (Sask. Residents Only)	Zones 31 and 32	Dec. 2 - Dec. 7	one antlerless white-tailed deer	- Hunters may purchase an antlerless white-tailed deer licence in addition to their regular white-tailed deer licence - Antlerless white-tailed deer licences are valid only in Zones 31 and 32 during the Dec. 2 to Dec. 7 season - "Antlerless white-tailed deer" means a doe or a 1985 fawn
White-tailed Deer with Guided Moose	Zones 60, 61 and 62	Persons holding valid deer licences and possessing guided moose licences, Sept. 30 - Oct. 19 and Nov. 4 - Nov. 9	one white-tailed deer, either sex	

Big Game

	Zone 69	Persons holding valid deer licences and possessing guided moose licences Sept. 9 - Sept. 21 Sept. 30 - Oct. 5 & Nov. 4 - Nov. 9	one white-tailed deer, either sex	- Services of a registered guide must be used.
	Zones 70 to 76, including Lac La Ronge Provincial Park	Persons holding valid deer licences and possessing guided moose licences Sept. 9 - Sept. 21 & Sept. 30 - Oct. 12	one white-tailed deer, either sex	
Regular Elk (Sask. Residents Only)	Zones 48, 49, 50 (North of Highway 55), 56 to 64, 66 and 69, including Nipawin Provincial Park, and the northeast portion of Meadow Lake Provincial Park north of 17th base line.	Sept. 16 - Sept. 28 & Dec. 2 to Dec. 7	one antlered elk	- "Antlered Elk" means any elk having an antler or antlers at least 15 centimetres in length as measured on the outside curve of the antler from the skull to the tip - **Watch for signs in Meadow Lake Provincial Park**
	Zone 53, including Cookson Wildlife Management Unit	Nov. 4 - Dec. 14	one elk either sex	- **Note:** Hunters will be restricted to designated trails within the Cookson Wildlife Management Unit
Regular Moose (Sask. Residents Only)	Zones 43, 48, 49, 53, 56 to 67 and 69, including Leaf Lake Wildlife Management Units and Nipawin Provincial Park	Oct. 7 - Oct. 12	one bull or one 1985 calf moose	- "Bull Moose" means a male moose one or more years old. "Calf Moose" means any moose born in 1985. "Cow Moose" means a female moose one or more years old - Successful applicants for a special moose licence are not eligible to purchase a regular moose licence - The antlers of bull moose and the lower jaw of calf moose must accompany the carcass
Early Season	Zones 70 to 76, including Lac La Ronge Provincial Park	Sept. 2 - Sept. 21	one bull or one 1985 calf moose	
 Late Season	Zones 43, 48, 49 and 56 to 59, including Leaf Lake Wildlife Management Unit	Nov. 18 - Nov. 30	one bull or one 1985 calf moose	
	Zones 53, 55 and 60 to 69, including Cookson Wildlife Management Unit, Nipawin Provincial Park and Bronson Forest Recreation Site	Nov. 18 - Nov. 23	one bull or one 1985 calf moose	
	Zones 70 to 76, including Lac La Ronge Provincial Park	Nov. 4 - Nov. 30	one bull or one 1985 calf moose	
Guided Moose (Canadian Residents and Non-residents)	Zones 60, 61 and 62	Sept. 30 - Oct. 19 & Nov. 4 - Nov. 23	one bull or one 1985 calf moose	- The antlers of bull moose and the lower jaw of calf moose must accompany the carcass - Services of a registered guide must be used - 400 Guided Moose Licences are available. Quotas (in brackets) for each zone: 60(60), 61(115), 62(15), 69(15), 70(10), 71(45), 72(45), 73(10), 74(45), 75(10), 76(30)
	Zone 69	Sept. 9 - Sept. 21 Sept. 30 - Oct. 5 & Nov. 4 - Nov. 23	one bull or one 1985 calf moose	
	Zones 70 to 76, including Lac La Ronge Provincial Park	Sept. 9 - Sept. 21 Sept. 30 - Oct. 12 & Nov. 4 - Nov. 30	one bull or one 1985 calf moose	
Woodland Caribou (Sask. Residents Canadian Residents and Non-residents) 	Zones 58, 59, 61 to 66 and 69, including Nipawin Provincial Park	Nov. 18 - Nov. 30	one woodland caribou, either sex	- Canadian residents and Non-residents must use the services of a registered guide when hunting caribou
	Zones 70 to 75, including Lac La Ronge Provincial Park	Sept. 9 - Sept. 21 Sept. 30 - Oct. 12 & Nov. 4 - Dec. 7	one woodland caribou, either sex	
Barren-ground Caribou (Sask. Residents of Zone 76 only)	Zone 76	Nov. 1 - Mar. 1, 1986	two barren-ground caribou, either sex; separate licences required	- Residents of Zone 76 means Saskatchewan residents living in Zone 76 during the past three months
Bear (Sask. Residents, Canadian Residents and Non-residents)	Zones 42, 43 and 48 to 76, including Cookson, Horsehide Lake and Leaf Lake Wildlife Management Units.	Aug. 26 - Oct. 19	two bear, either sex, separate licences required	- Unused spring bear licences are valid in fall seasons
	Lac La Ronge, Meadow Lake, Nipawin and Duck Mountain Provincial Parks and Bronson Forest Recreation Site	Sept. 4 - Oct. 19	two bear, either sex; separate licences required	
	Fort a la Corne Wildlife Management Unit only	Sept. 23 - Oct. 19	two bear, either sex; separate licences required	
	Note: A person hunting in zones 58 to 61 during an August, September or October big game season may obtain two free bear seals. One bear, either sex, can be taken per seal while hunting under a valid big game licence. Once the big game licence has been filled, the free bear seals are no longer valid for hunting.			- Zones 58 to 61 free bear seals are available at department offices only